STANDARD HORIZON

ECLIPSE DSC+ GX1100E

25 Watt VHF/FM

Class D DSC Marine Transceiver

Owner's Manual

- Affordable Ultra Compact Fixed Mount VHF radio
- Submersible IPX7 Front Panel
- DSC (Digital Selective Calling) Class D with Position Report and Request
- Programmable Scan, Priority Scan, and Dual Watch
- Dot Matrix Display of various indication includes the GPS Latitude/Longitude shown※
- Simple Operation
- All USA / International and Canadian Marine Channels

※ When Attached to GPS Receiver

VERTEX STANDARD CO., LTD.

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1 GENERAL INFORMATION

The Vertex Standard **GX1100E ECLIPSE DSC+** is a VHF/FM transceiver designed for use in the frequency range of 156.025 to 163.275 MHz. The **GX1100E** can be operated from 10.8 to 15.6 VDC and has a switchable RF output power of 1 watt or 25 watts.

The **GX1100E** is capable of DSC (Digital Selective Calling) Class D operation which allows continuous receiving of Digital Selective Calling functions on channel 70 even if the radio is receiving a call.

2 PACKING LIST

When the package containing the transceiver is first opened, please check it for the following contents:

- **GX1100E** Transceiver
- Mounting Bracket and attaching hardware
- Power Cord
- Owner's Manual
- Warranty Card

3 OPTIONS

MMB-84 ..... Flush-Mount Bracket
MLS-310 ..... Amplified External Speaker
MLS-300 ..... External Loudspeaker

4 INSTALLATION NOTE

The installation of this equipment should be made in such a manner as to respect the EC recommended electromagnetic field exposure limits (1999/519/EC).

The maximum RF power available from this device is 25 watts. The antenna should be installed as high as possible for maximum efficiency and that this installation height should be at least 5 meters above ground (or accessible) level. In the case that an antenna can not be installed at a reasonable height, then the transmitter should neither be continuously operated for long periods if any person is within 5 metres of the antenna, nor operated at all if any person is touching the antenna.

In all cases any possible risk depends on the transmitter being activated for long periods (actual recommendation limits are specified as an average of 6 minutes). Normally the transmitter is not active for long periods of time. Some radio licenses will require that a timer circuit automatically cuts the transmitter after 1 - 2 minutes.

5 GETTING STARTED

5.1 ABOUT VHF RADIO

The radio frequencies used in the VHF marine band lie between 156 and 158 MHz with some shore stations available between 161 and 163 MHz. The marine VHF band provides communications over distances that are essentially “line of sight” (VHF signals do not travel well through objects such as buildings, hills or trees). Actual transmission range depends much more on antenna type, gain and height than on the power output of the transmitter. On a fixed mount 25W radio transmission expected distances can be greater than 25 km.

5.2 SELECTING AN ANTENNA

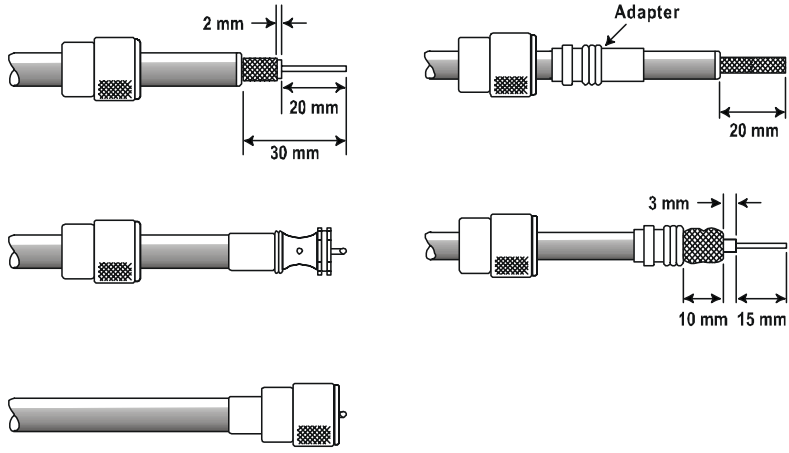
Marine antennas are made to radiate signals equally in all horizontal directions, but not straight up. The objective of a marine antenna is to enhance the signal toward the horizon. The degree to which this is accomplished is called the antenna’s gain. It is measured in decibels (dB) and is one of the major factors in choosing an antenna. In terms of effective radiated power (ERP), antennas are rated on the basis of how much gain they have over a theoretical antenna with zero gain. A 1 m, 3dB gain antenna represents twice as much gain over the imaginary antenna.

Typically a 1 m 3dB gain stainless steel whip is used on a sailboat mast. The longer 2.5 m 6dB fibreglass whip is primarily used on power boats that require the additional gain.

5.3 COAXIAL CABLE

VHF antennas are connected to the transceiver by means of a coaxial cable – a shielded transmission line. Coaxial cable is specified by it's diameter and construction.

For runs less than 6 m, RG-58/U, about 6 mm in diameter is a good choice. For runs over 6 m but less than 15 m, the larger RG-8X should be used for cable runs over 15 m RG213 should be used. For installation of the connector onto the coaxial cable refer to the figure below.



To get your coax cable through a fitting and into your boat's interior, you may have to cut off the end plug and reattach it later. You can do this if you follow the directions that are supplied with the connector. Be sure to make good soldered connections.

6 INSTALLATION

6.1 LOCATION

The radio can be mounted at any angle. Choose a mounting location that:

- keeps the radio and microphone at least 1 m away from your vessel's magnetic navigation compass
- provides accessibility to the front panel controls
- allows connection to a power source and an antenna
- has nearby space for installation of a microphone hanger
- the antenna must be mounted at least 1 m from radio

Note: To insure the radio does not affect the compass, or that radios performance is not affected by the antenna location, temporarily connect the radio in the desired location and:

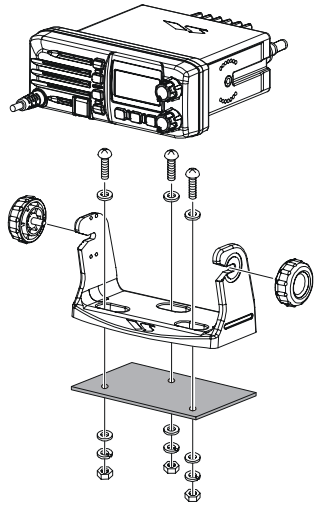
a. Examine the compass to see if the radio causes any deviation
b. Connect the antenna and key the radio. Check to ensure the radio is operating correctly by requesting a radio check.

6.2 MOUNTING THE RADIO

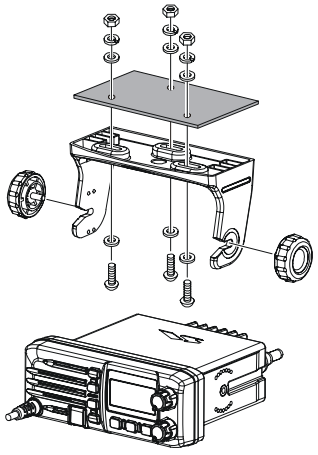
6.2.1 Supplied Universal Mounting Bracket

The supplied universal mounting bracket allows overhead or desktop mounting.

Use a 5.2-mm bit to drill the holes to a surface which is more 10 mm thick and can support more than 5 kg and secure the bracket with the supplied screws, spring washers, flat washers, and nuts.



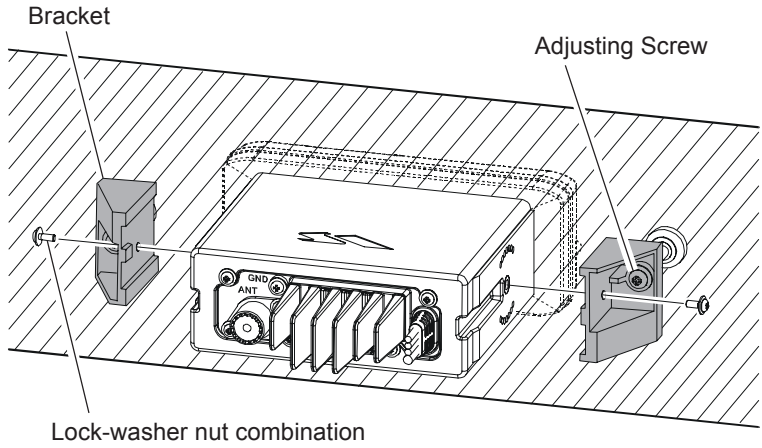
Desktop Mounting



Overhead Mounting

6.2.2 Optional MMB-84 Flush Mount Bracket

1. To assist in flush mounting, a template has been included. Use this template to assess the mounting location.
2. Use the template to mark the location where the rectangular hole is to be cut. Confirm the space behind the dash or panel is deep enough to accommodate the transceiver (at least 15 cm deep).
   There should be at least 1.5 cm between the transceiver's heatsink and any wiring, cables or structures.
3. Cut out the rectangular hole and insert the transceiver.
4. Fasten the brackets to the sides of the transceiver with the lock washer nut combination; so that the mounting screw base faces the mounting surface.
5. Turn the adjusting screw to adjust the tension so that the transceiver is tight against the mounting surface.



MMB-84 Flush Mount Installation

6.3 ELECTRICAL CONNECTIONS

CAUTION

Reverse polarity connections will damage the radio!

Connect the power cord and antenna to the radio. Antenna and Power Supply connections are as follows (see Figure 1):

1. Mount the antenna at least 1 m away from the radio. At the rear of the radio, connect the antenna cable.
2. Connect the red power wire to a 10.8 VDC ~ 15.6 VDC power source. Connect the black power wire to a negative ground.
3. If an optional remote extension speaker is to be used, refer to next section for connections.
4. It is advisable to have a Certified Marine Technician check the power output and the standing wave ratio of the antenna after installation.

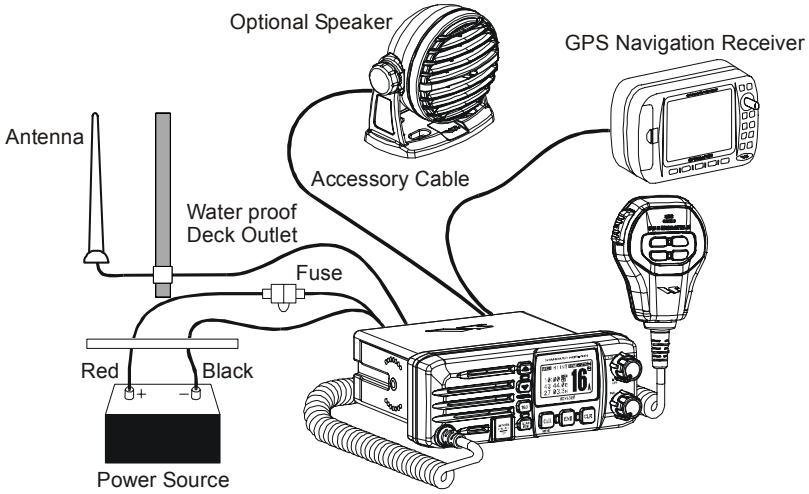
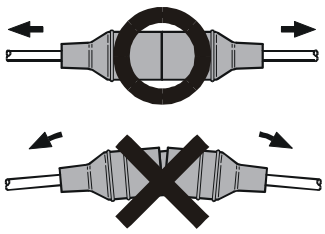


Figure 1. General Installation

Fuse (Q0000127: 6A, 250V) Replacement

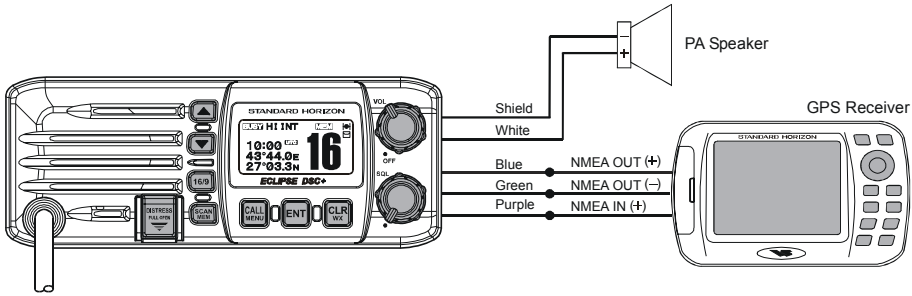


To take out the Fuse from the Fuse Holder, hold the both ends of the Fuse Holder and pull the Fuse Holder apart, do not bend the Fuse Holder. When you replace the Fuse (Q0000127: 6A, 250V), please confirm that the Fuse is tightly fixed on the metal contact located inside the Fuse Holder. If the metal contact holding the fuse is loose, the Fuse holder may heat up.

6.4 ACCESSORY CABLE

Wire Color/Description	Connection Examples
WHITE - External Speaker (+)	Connect to external 4 Ohm audio speaker
SHIELD - External Speaker (–)	Connect to external 4 Ohm audio speaker
BLUE- NMEA Input (+)	Connect to NMEA (+) output of GPS
GREEN - NMEA Input (–)	Connect to NMEA ground of GPS
PURPLE - NMEA Output (+)	Connect to NMEA (+) input of GPS

When connecting the external speaker or GPS navigation receiver, strip off about 2.5 cm of the specified wire's insulation, then splice the ends together using proper waterproofing techniques.



- The GPS must have the NMEA Output turned on and set to 4800 Baud in the setup menu. If there is a selection for parity select none.
- For further information on interfacing /setting up your GPS. Please contact the manufacturer of the GPS receiver.
- **GX1100E** can read NMEA-0183 version 2.0 or higher.
- The NMEA supported sentences are:
  Input: GLL, GGA, RMC and GNS (RMC sentence is recommended)
  Output: DSC and DSE
  (DSC sentences to Standard Horizon Plotter for Position Polling)

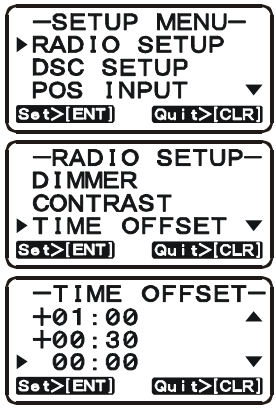
6.5 CHECKING GPS CONNECTIONS

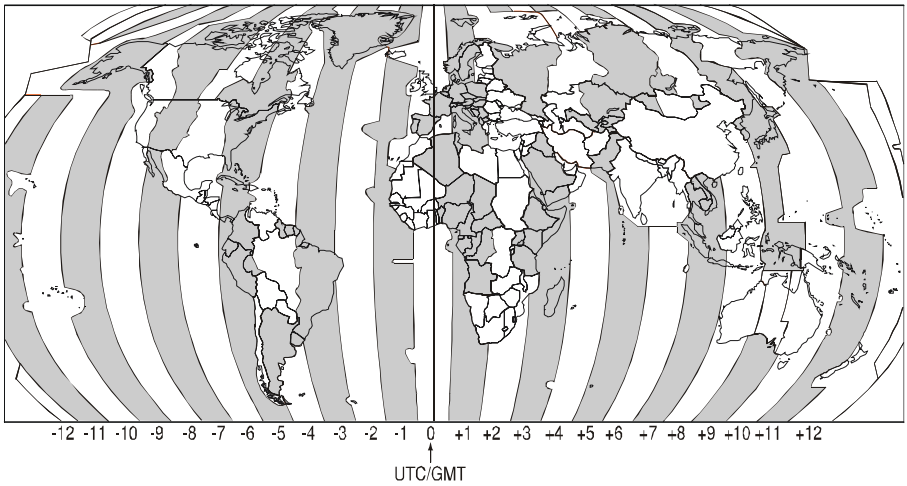
After connections have been made between the **GX1100E** and the GPS, a small satellite icon will appear on the top right corner of the display, and displays your current location (Latitude/Longitude) on the display.

6.6 CHANGING THE GPS TIME

From the Factory the **GX1100E** shows GPS satellite time or UTC time. A time offset is needed to show the local time in your area.

1. Press and hold down the [**CALL**(**MENU**)] key until "SETUP MENU" appears.
2. Press the [**ENT**] key, then select "TIME OFFSET" with the [▲(**UP**)] / [▼(**DOWN**)] keys.
3. Press the [**ENT**] key.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select time offset from UTC. See illustration below to find your offset time from UTC. If "00:00" is assigned, the time is the same as UTC (Universal Time Co-ordinated or GMT Greenwich Mean Time).
5. Press the [**ENT**] key to store the time offset.
6. Press the [**16/9**] key to exit the menu mode and return to radio operation.



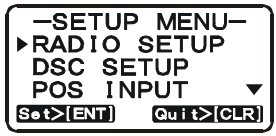


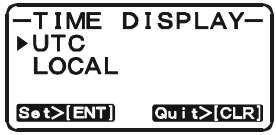
OFFSET TIME TABLE

6.7 CHANGING THE TIME LOCATION

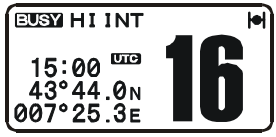
Sets the radio to show UTC time or Local time with the offset inputted in section 6.6 Changing the GPS Time.

1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appears.
2. Press the [**ENT**] key, then select "**TIME DISPLAY**" with the [▲(**UP**)] / [▼(**DOWN**)] keys.
3. Press the [**ENT**] key.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] to select "**UTC**" or "**LOCAL**".
5. Press the [**ENT**] key to store the selected setting.
6. Press the [**16/9**] key to exit the menu mode and return to radio operation.

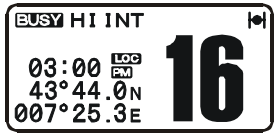




In the Local time mode, the display shows the time by the 12-hour system. Meanwhile, the display shows the time by the 24-hour system in the UTC time mode.



("**UTC**" mode)



("**LOCAL**" mode)

7 CONTROLS AND INDICATORS

NOTE

This section defines each control of the transceiver. See Figure 4 for location of controls. For detailed operating instructions refer to section "**8 BASIC OPERATION**."

① **POWER SWITCH / VOLUME CONTROL** (**VOL/PWR**)
Turns the transceiver on and off as well as adjusts the audio volume.
Turn this knob clockwise to turn the radio on and increase the speakers audio volume level.
Turn fully counter-clockwise to turn the radio off.

② **SQUELCH CONTROL** (**SQL**)
Adjusting this control clockwise, sets the point at which random noise on the channel does not activate the audio circuits but a received signal will. This point is called the squelch threshold. Further adjustment of the squelch control will degrade reception of wanted transmissions.

③ [**CLR**(**WX**)] Key
Press the [**CLR**(**WX**)] Key to cancel the menu selection.
The secondary function of the [**CLR**(**WX**)] Key (WX function) does not work on the **GX1100E**.

④ [**ENT**] Key
Press the [**ENT**] Key to determine the menu selection.

⑤ [**CALL**(**MENU**)] Key
Press the [**CALL**(**MENU**)] key to access the "DSC MENU". The "INDIVIDUAL CALL", "GROUP CALL", "ALL SHIPS CALL", "POS REQUEST", "POS REPORT", "DSC LOG", and "DSC TEST" functions can be accessed from the "DSC MENU".
NOTE: Before the "DSC MENU" menu can be selected a MMSI must be entered. Refer to section "**9.2 MARITIME MOBILE SERVICE IDENTITY** (**MMSI**)."
Secondary use
Press and hold the [**CALL**(**MENU**)] key to access the "SETUP MENU". The "RADIO SETUP" (refer to section "**10 RADIO SETUP MODE**"), "DSC SETUP", "POS INPUT", and "MMSI SETUP" functions can be accessed from the "SETUP MENU".

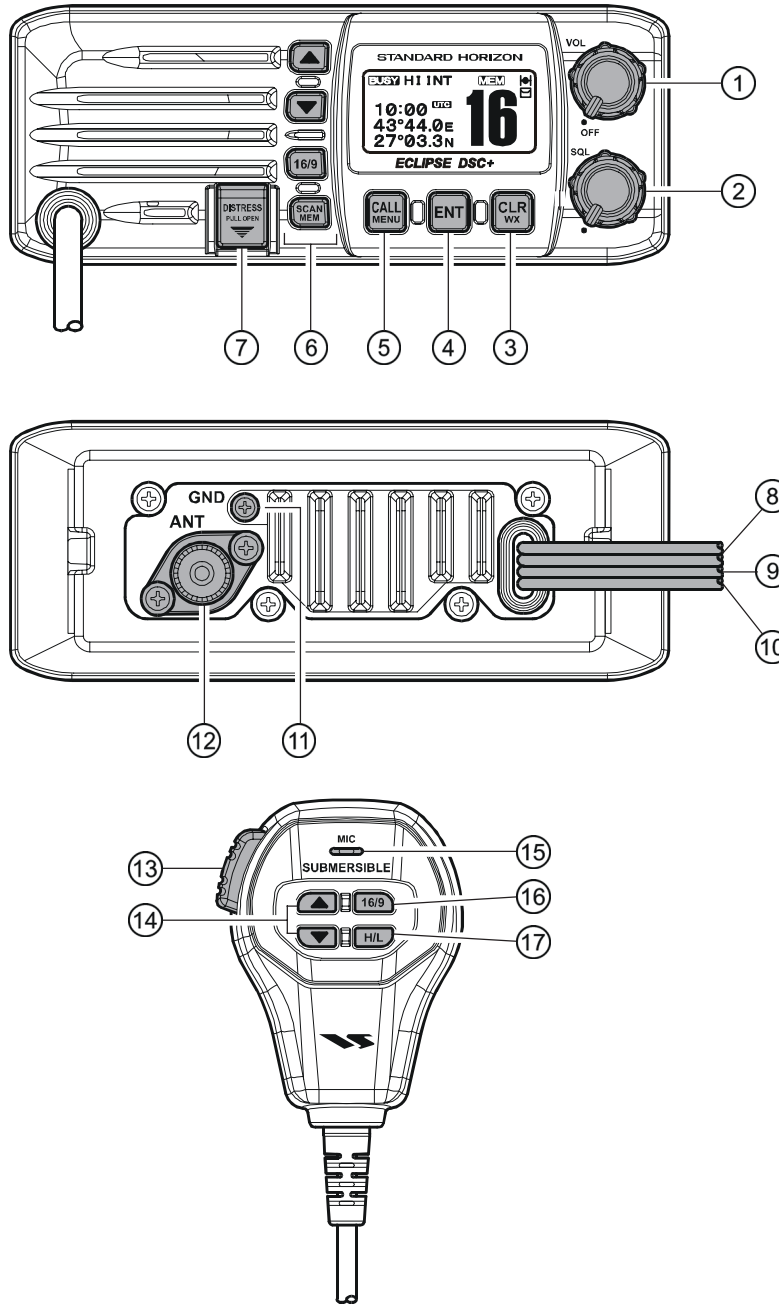


Figure 4. Controls and Connectors

⑥ **KEYPAD**

[▲(UP)] / [▼(DOWN)] KEYS

The **[▲(UP)]** and **[▼(DOWN)]** keys are used to select a desired channel and to select items in the DSC OPERATION and SETUP menus.

[16/9] Key

Immediately recalls channel 16 from any channel location and automatically selects high power. Holding down this key recalls channel 9. Pressing the **[16/9]** key again reverts to the previous selected working channel.

Secondary use

Press and hold the **[16/9]** key then press the **[CLR]** key to switch between the USA, Canadian, and International Channel Groups.

[SCAN(MEM)] Key

Press this key to start and stop the scanning of programmed channels. Refer to section "**8.10 SCANNING**" for details.

Secondary use

To add a channel into the scan memory, select the channel and press and hold the **[SCAN(MEM)]** key until "**MEM**" is shown on the display.

To delete a memorised channel from scan memory, select the channel and press and hold the **[SCAN(MEM)]** key until "**MEM**" is removed from the display.

⑦ **[DISTRESS]** Key

Used to send a DSC Distress Call. To send the distress call refer to section "**9.3.1 (Transmitting A Distress Alert)**."

⑧ **DC INPUT CABLE**

Connects the radio to a DC power supply capable of delivering 12V DC.

⑨ **EXTERNAL SPEAKER CONNECTION CABLE**

Connects the **GX1100E** to an external speaker.

⑩ **GPS RECEIVER CONNECTION CABLE**

Connects the **GX1100E** to a GPS receiver.

⑪ **GND TERMINAL**

Connects the **GX1100E** to a good ground, for safety and optimum performance.

Install only the supplied screw or similar size (M3x6, Stainless Steel) screw.

⑫ **ANTENNA JACK**

Connects an antenna to the transceiver. Use a marine VHF antenna with an impedance of 50 ohms.

⑬ **MICROPHONE**

Transmits the voice message with reduction of background noise, using Clear Voice Noise Reduction Technology.

NOTE: Be sure your mouth is about 1.5 cm from the mic hole for best performance.

⑭ **PTT (Push-To-Talk) SWITCH**

Keys the transmitter when the transceiver is in radio mode.

⑮ [▲(**UP**)] / [▼(**DOWN**)] **KEYS**

The [▲(**UP**)] and [▼(**DOWN**)] keys on the microphone function the same as the [▲(**UP**)] and [▼(**DOWN**)] keys on the front panel of the transceiver.

⑯ [**16/9**] **Key**

The [**16/9**] key on the microphone functions the same as the [**16/9**] key on the front panel of the transceiver.

Immediately recalls channel 16 from any channel location. Holding down this key recalls channel 9. Pressing the [**16/9**] key again reverts to the previous selected working channel.

⑰ [**H/L**] **Key**

Press this key to toggle the transmit output power between 25 W (High) and 1 W (Low) power. When the [**H/L**] key is pressed while the transceiver is on channel 13 or 67, the power will temporarily switch from LO to HI power until the **PTT** is released.

The [**H/L**] key does not function on transmit inhibited and low power only channels.

NOTE: 1W low power is indicated by LO on the display, when 25W high power is selected the display do not show an indication.

8 BASIC OPERATION

8.1 RECEPTION

1. After the transceiver has been installed, ensure that the power supply and antenna are properly connected.
2. Turn the **VOL/PWR** knob clockwise to turn the transceiver on.
3. Turn the **SQL** knob fully counterclockwise. This state is known as "squelch off".
4. Turn up the **VOL** knob until noise or audio from the speaker is at a comfortable level.
5. Turn the **SQL** knob clockwise until the random noise disappears. This state is known as the "squelch threshold."
6. Press the [▲(**UP**)] or [▼(**DOWN**)] keys to select the desired channel. Refer to the channel chart on page 61 for available channels.
7. When a message is received, adjust the volume to the desired listening level. The "BUSY" indicator in the LCD is displayed indicating that the channel is being used.

8.2 TRANSMISSION

1. Perform steps 1 through 6 of RECEPTION.
2. Before transmitting, monitor the channel to ensure it is clear.
3 Press the **PTT** (push-to-talk) switch. The "TX" indicator in the LCD is displayed.
4. Speak slowly and clearly into the microphone.

NOTE

We recommend that the duty cycle (TX:RX) is "1 : 3" or less.

5. When the transmission is finished, release the **PTT** switch.

NOTE

This is a noise cancelling microphone. The oval slot on the bottom of microphone should be positioned within 1.5 cm from the mouth for optimum performance.

8.3 TRANSMIT TIME - OUT TIMER (TOT)

When the **PTT** switch on the microphone is held down, transmit time is limited to 5 minutes. This limits unintentional transmissions due to a stuck microphone. About 10 seconds before automatic transmitter shutdown, a warning beep will be heard from the speaker(s). The transceiver will automatically go to receive mode, even if the **PTT** switch is continually held down. Before transmitting again, the **PTT** switch must first be released and then pressed again.

NOTE

When a transmission was shut down by the TOT, the **GX1100E** can not transmit afterwards for 10 seconds.

8.4 SIMPLEX/DUPLEX CHANNEL USE

Refer to the VHF MARINE CHANNEL CHART (page 62) for instructions on use of simplex and duplex channels.

NOTE

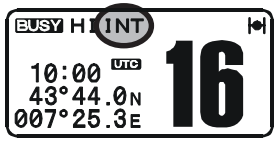
All channels are factory-programmed in accordance with International, Industry Canada (Canada), and FCC (USA) regulations. Mode of operation cannot be altered from simplex to duplex or vice-versa.

8.5 INTERNATIONAL, USA, AND CANADA MODE

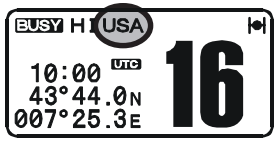
1. To change the modes, hold the [**16/9**] key and press the [**CLR**(**WX**)] key. The mode changes from "International" to "Canadian" to "USA" with each press of the [**CLR**(**WX**)] key.
2. "**INTL**" will be displayed for International mode, "**CAN**" will be displayed for Canadian mode, and "**USA**" will be displayed on the LCD for USA mode.
3. Refer to the VHF MARINE CHANNEL CHART (page 62) for allocated channels in each mode.

NOTE

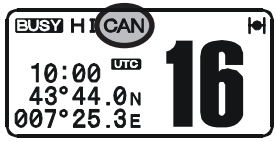
This function does not work depending on the transceiver's version.



INTERNATIONAL MODE



USA MODE



CANADIAN MODE

8.6 EMERGENCY (CHANNEL 16 USE)

Channel 16 is known as the Hail and Distress Channel. An emergency is defined as a threat to life or property. In such instances, be sure the transceiver is on and set to CHANNEL 16. Then use the following procedure:

1. Press the microphone push-to-talk switch and say "***Mayday***, ***Mayday***, ***Mayday***. This is _____ , _____ , _____ " (your vessel's name).
2. Then repeat once: "***Mayday***, _____ " (your vessel's name).
3. Now report your position in latitude/longitude, or by giving a true or magnetic bearing (state which) to a well-known landmark such as a navigation aid or geographic feature such as an island or harbour entry.
4. Explain the nature of your distress (sinking, collision, aground, fire, heart attack, life-threatening injury, etc.).
5. State the kind of assistance you desire (pumps, medical aid, etc.).
6. Report the number of persons aboard and condition of any injured.
7. Estimate the present seaworthiness and condition of your vessel.

8. Give your vessel's description: length, design (power or sail), colour and other distinguishing marks. The total transmission should not exceed 1 minute.
9. End the message by saying "***OVER***." Release the microphone button and listen.
10. If there is no answer, repeat the above procedure. If there is still no response, try another channel.

8.7 CALLING ANOTHER VESSEL (CHANNEL 16 OR 9)

Channel 16 may be used for initial contact (hailing) with another vessel.

However, its most important use is for emergency messages. This channel must be monitored at all times except when actually using another channel.

It is monitored by the European, U.S. and Canadian Coast Guards and by other vessels. **Use of channel 16 for hailing must be limited to initial contact only.** Calling should not exceed 30 seconds, but may be repeated 3 times at 2-minute intervals. In areas of heavy radio traffic, congestion on channel 16 resulting from its use as a hailing channel can be reduced significantly in U.S. waters by using **channel 9** as the initial contact (hailing) channel for non-emergency communications. Here, also, calling time should not exceed 30 seconds but may be repeated 3 times at 2-minute intervals.

Prior to making contact with another vessel, refer to the channel charts in this manual, and select an appropriate channel for communications after initial contact. For example, Channels 68 and 69 are some of the channels available to non-commercial (recreational) boaters. Monitor your desired channel in advance to make sure you will not be interrupting other traffic, and then go back to either channel 16 or 9 for your initial contact.

When the hailing channel (16 or 9) is clear, state the name of the other vessel you wish to call and then "***this is***" followed by the name of your vessel and your Station License (Call Sign). When the other vessel returns your call, immediately request another channel by saying "***go to***," the number of the other channel, and "over." Then switch to the new channel. When the new channel is not busy, call the other vessel.

After a transmission, say "***over***," and release the microphone's push-to-talk (**PTT**) switch. When all communication with the other vessel is completed, end the last transmission by stating your Call Sign and the word "***out***." Note that it is not necessary to state your Call Sign with each transmission, only at the beginning and end of the contact.

Remember to return to Channel 16 when not using another channel. Some radios automatically monitor Channel 16 even when set to other channels or when scanning.

8.8 MAKING TELEPHONE CALLS

To make a radiotelephone call, use a channel designated for this purpose, The fastest way to learn which channels are used for radiotelephone traffic is to ask at a local marina. Channels available for such traffic are designated ***Public Correspondence*** channels on the channel charts in this manual. Some examples for USA use are Channels 24, 25, 26, 27, 28, 84, 85, 86, and 87. Call the marine operator and identify yourself by your vessel's name, The marine operator will then ask you how you will pay for the call (telephone credit card, collect, etc.) and then link your radio transmission to the telephone lines.

The marine telephone company managing the VHF channel you are using may charge a link-up fee in addition to the cost of the call.

8.9 OPERATING ON CHANNELS 13 AND 67

Channel 13 is used at docks and bridges and by vessels manoeuvering in port. Messages on this channel must concern navigation only, such as meeting and passing in restricted waters.

Channel 67 is used for navigational traffic between vessels.

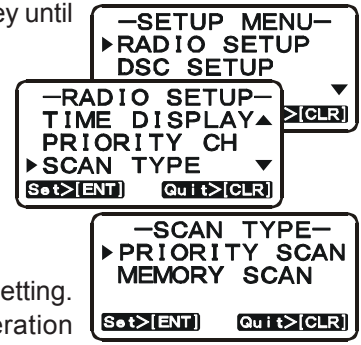
By regulation, power is normally limited to 1 Watt on these channels. Your radio is programmed to automatically reduce power to this limit on these channels. However, in certain situations it may be necessary to temporarily use a higher power. See page 17 ([**H/L**] key) for means to temporarily override the low-power limit on these two channels.

8.10 SCANNING

Allows the user to select the scan type from Memory scan or Priority scan. "Memory scan" scans the channels that were programmed into memory. "Priority scan" scans the channels programmed in memory with the priority channel.

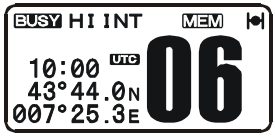
8.10.1 Selecting the Scan Type

1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appears.
2. Press the [**ENT**] key, then select "**SCAN TYPE**" in the "**RADIO SETUP**" menu with the [▲(**UP**)] / [▼(**DOWN**)] keys.
3. Press the [**ENT**] key.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**PRIORITY SCAN**" or "**MEMORY SCAN**."
5. Press the [**ENT**] key to store the selected setting.
6. To exit this menu and return to radio operation mode press the [**16/9**] key.

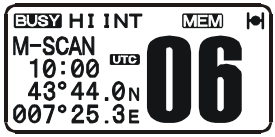


8.10.2 Memory Scanning (M-SCAN)

1. Adjust the **SQL** knob until background noise disappears.
2. Select a desired channel to be scanned using the [▲(**UP**)] / [▼(**DOWN**)] keys.
3. Press and hold the [**SCAN**(**MEM**)] key for one second, "**MEM**" will appear on the LCD which indicates the channel has been programmed into the transceivers memory.
4. Repeat steps 2 and 3 for all the desired channels to be scanned.



5. To DELETE a channel from the transceiver's memory, select the channel then press and hold the [**SCAN**(**MEM**)] key for one second, "**MEM**" will disappear in the LCD.
6. To start scanning, just press the [**SCAN**(**MEM**)] key momentarily. "M-SCAN" appears on the LCD. Scanning will proceed from the lowest to the highest programmed channel number and will stop on a channel when a transmission is received.

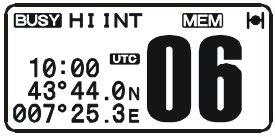


7. The channel number will blink during reception.
8. To stop scanning, press the [**16/9**] or [**CLR**(**WX**)] key.

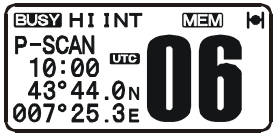
8.10.3 Priority Scanning (P-SCAN)

In the default setting, Channel 16 is set as the priority channel. You may change the priority channel to another channel from Channel 16 in the Radio Setup Mode, refer to section "**10.6 PRIORITY CHANNEL SET**."

1. Adjust the **SQL** knob until background noise disappears.
2. Select a desired channel to be scanned using the [▲(**UP**)] / [▼(**DOWN**)] keys.
3. Press and hold the [**SCAN**(**MEM**)] key for one second, "**MEM**" will appear on the display which indicates the channel has been programmed into the transceivers memory.
4. Repeat step 2 for all the desired channels to be scanned.



5. To DELETE a channel from the transceiver's memory, select the channel then press and hold the [**SCAN**(**MEM**)] key until "**MEM**" is removed from the display.
6. To start priority scanning, just press the [**SCAN**(**MEM**)] key momentarily. "P-SCAN" appears on the LCD. Scanning will proceed between the memorized channels and the priority channel. The

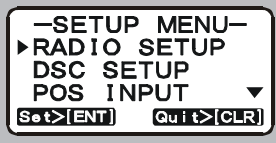


priority channel will be scanned after each programmed channel.

7. To stop scanning, press the [**16/9**] or [**CLR**(**WX**)] key.

Priority Channel Setting

1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appears.
2. Press the [**ENT**] key, then select "**PRIORITY CH**" in the "**RADIO SETUP**" menu with the [▲(**UP**)] / [▼(**DOWN**)] keys.
3. Press the [**ENT**] key.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the Priority channel.
5. Press the [**ENT**] key to store the selected setting.
6. Press the [**16/9**] key to exit the menu mode and return to radio operation.



9 DIGITAL SELECTIVE CALLING

9.1 GENERAL

WARNING

This radio is designed to generate a digital maritime distress and safety call to facilitate search and rescue. To be effective as a safety device, this equipment must be used only within communication range of a shore-based VHF marine channel 70 distress and safety watch system. The range of signal may vary but under normal conditions should be approximately 20 nautical miles.

Digital Selective Calling is a semi-automated method of establishing a radio call, it has been designated by the International Maritime Organization (IMO) as an international standard for establishing VHF, MF, and HF radio calls. It has also been designated as part of the Global Maritime Distress and Safety System (GMDSS). It is planned that DSC will eventually replace aural watches on distress frequencies and will be used to announce routine and urgent maritime safety information broadcasts.

This new system allows mariners to instantly send a distress call with GPS position (when connected to the transceiver) to the Coast Guard and other vessels within range of the transmission. DSC will also allow mariners to initiate or receive Distress, Urgency, Safety, Routine, POSITION REQUEST, POSITION SEND, and Group calls to or from another vessel equipped with a DSC transceiver.

9.2 MARITIME MOBILE SERVICE IDENTITY (MMSI)

9.2.1 What is an MMSI?

An MMSI is a nine digit number used on Marine Transceivers capable of using Digital Selective Calling (DSC). This number is used like a telephone number to selectively call other vessels.

THIS NUMBER MUST BE PROGRAMMED INTO THE RADIO TO OPERATE THE GX1100E DSC FUNCTIONS.

How can I obtain an MMSI assignment?

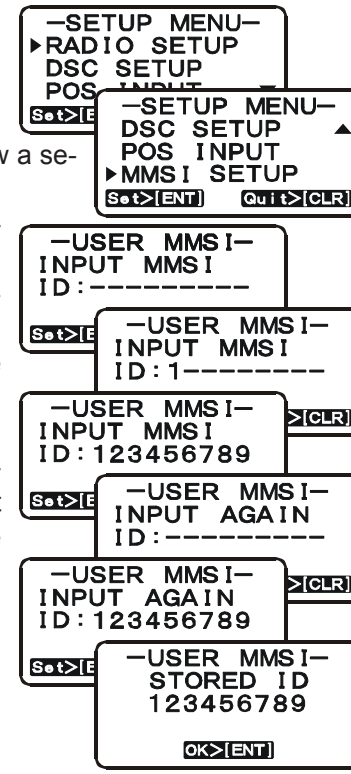
Please contact the Radio Licensing Authority for your country for information on how to obtain an MMSI number.

9.2.2 Programming the MMSI

WARNING

A User MMSI can be input only once. Therefore, ***please be careful not to input the incorrect MMSI number***. If the user needs to change the MMSI number after it has been entered, the radio will have to be returned to Factory Service. Refer to the section "**11.2. FACTORY SERVICE**."

1. Press and hold down the [**CALL**(**MENU**)] key until the "**SETUP MENU**" appears.
2. Press the [▼(**DOWN**)] key repeatedly until the "**MMSI SETUP**" menu appears.
3. Press the [**ENT**] key. The display will show a series of dashes.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the first number of your MMSI, then press the [**ENT**] key to step to the next number.
5. Repeat step 4 to set your MMSI (up to nine digits).
6. When finished programming the number, press and hold the [**ENT**] key. A confirmation message appears on the display. Set your MMSI again, then press and hold the [**ENT**] key.
7. Press the [**ENT**] key to store the number in memory and return to radio operation mode.



9.3 DISTRESS ALERT

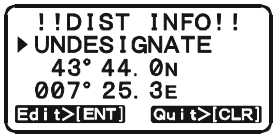
The **GX1100E** is capable of transmitting and receiving DSC Distress messages to all DSC radios. The **GX1100E** may be connected to a GPS to also transmit the Latitude and Longitude of the vessel.

9.3.1 Transmitting a Distress Alert

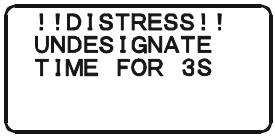
NOTE

To be able to transmit a Distress Alert an MMSI number must be programmed, refer to section "**9.2.2 Programming the MMSI**."

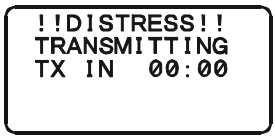
In order for your vessels location to be transmitted either connect a GPS to the **GX1100E** (refer to section "**6.4 ACCESSORY CABLE**") or manually input your postion (refer to section "**9.11 MANUAL INPUTTING OF THE GPS LOCATION**").



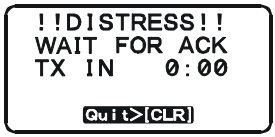
1. Lift the red spring loaded DISTRESS cover, then press and hold the [**DISTRESS**] key. The "**DISTRESS**" menu will appear on the LCD and the radios display will count down (**3S** → **2S** → **1S**) and then transmit the Distress Alert. The backlight of the LCD and keypad flashes while the radios display is countdown.



2. The transceiver will watch for a DSC acknowledgment transmission on CH70 and also receive calls on CH16.



3. If an acknowledgement is received, select channel 16 and advise your distress situation.
4. If no acknowledgment is received, the Distress Alert is repeated at approximately 4 minute intervals until a DSC acknowledgment is received.



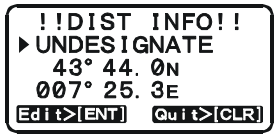
5. When a DSC Distress acknowledgment is received, a DSC Distress Alarm sounds and channel 16 is automatically selected. The LCD shows the MMSI of the ship responding to your distress.
   RECEIVED ACK: acknowledgment signal is received.
   RECEIVED RLY ACK: relay acknowledgment signal is received from another vessel or coast station.
6. To cancel the DSC Distress Alarm signal from the speaker, press any key.

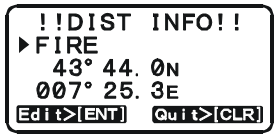
Transmitting a Distress Alert with Nature of Distress

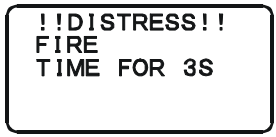
The **GX1100E** is capable of transmitting a Distress Alert with the following "Nature of Distress" categories:

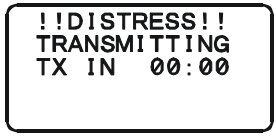
Undesignated, Fire, Flooding, Collision, Grounding, Capsizing, Sinking, Adrift, Abandoning, Piracy, Mob

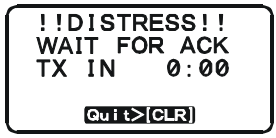
1. Lift the red spring loaded DISTRESS cover and press the [**DISTRESS**] key. The "**DISTRESS**" menu will appear on the LCD.
2. Press the [**ENT**] key.
3. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the desired nature of distress category, then press the [**ENT**] key.
4. Press and hold the [**DISTRESS**] key. The radios display will count down (**3S → 2S → 1S**) and then transmit the Distress Alert. The backlight of the LCD and keypad flashes while the radios display is countdown.
5. The transceiver will watch for a DSC acknowledgment transmission on CH70 and also receive calls on CH16.
6. If an acknowledgement is received, select channel 16 and advise your distress situation.
7. If no acknowledgment is received, the Distress Alert is repeated in 4 minute intervals until a DSC acknowledgment is received.
8. When a DSC Distress acknowledgment is received, a distress alarm sounds and channel 16 is automatically selected. The LCD shows the MMSI of the ship responding to your distress.
   RECEIVED ACK: acknowledgment signal is received.
   RECEIVED RLY ACK: relay acknowledgment signal is received from another vessel or coast station.
9. To cancel the DSC distress alarm signal from the speaker, press any key.









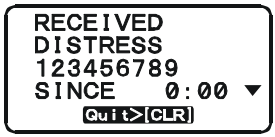


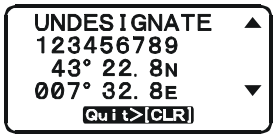
Cancel a Distress Alert

In order to cancel the repeat call function of the DSC, press the [**CLR**(**WX**)] key, then press the [**ENT**] key.

9.3.2 Receiving a Distress Alert

1. When a Distress Alert is received, an emergency alarm sounds. The display will show the MMSI (or name) of the vessel transmitting the Distress and the radio automatically switches to channel 16.
2. Press any key to stop the alarm.
3. Press the [▼(**DOWN**)] key to change the display to show the "Nature of Distress" and position of the vessel.
4. If the position of the vessel distress data does not include position, the LCD will show "**NO POSITION**".





NOTE

When there is an unread Distress Alert, the "**DSC**" icon will blink. You may review the unread Distress Alert from the DSC Log, refer to section "**9.6.2 Reviewing Received Calls Logged into the Call Waiting Directory**."

NOTE

You must continue monitoring channel 16 as a coast station may require assistance in the rescue attempt.

MEMO

9.4 ALL SHIPS CALL

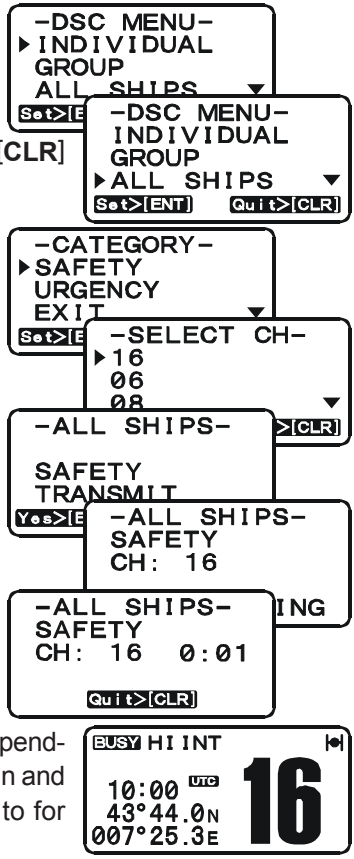
The All Ships Call function allows contact to be established with other vessel stations without having their ID in the individual calling directory. Also, priority for the call can be designated as Urgency or Safety.

URGENCY Call: This type of call is used when a vessel may not truly be in distress, but have a potential problem that may lead to a distress situation. This call is the same as saying PAN PAN PAN on channel 16.

SAFETY Call: Used to transmit boating safety information to other vessels. This message usually contains information about an overdue boat, debris in the water, loss of a navigation aid or an important meteorological message. This call is the same as saying Securite, Securite, Securite."

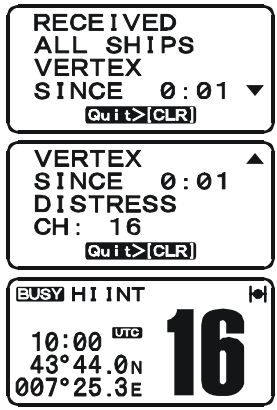
9.4.1 Transmitting an All Ships Call

1. Press the [**CALL**(**MENU**)] key. The "**DSC MENU**" will appear.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**ALL SHIPS**."
3. Press the [**ENT**] key. (To cancel, press the [**CLR**] key)
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the call ("**SAFETY**" or "**URGENCY**"), then press the [**ENT**] key.
5. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the operating channel you want to communicate on, then press the [**ENT**] key.
6. Press the [**ENT**] key again to transmit the selected call type of ALL SHIPS CALL.
7. After the ALL SHIPS CALL is transmitted, the transceiver will switch to the channel which is selected on step 5 above (but, the display will not change. To change the display, press the [**CLR**(**WX**)] key).
8. Listen to the channel to make sure it is not busy, then key the microphone and say PAN PAN PAN or "Securite, Securite, Securite" depending on the priority of the call. Say your call sign and announce the channel you wish to switch to for communications.



9.4.2 Receiving an All Ships Call

1. When an All Ships Call is received, an emergency alarm sounds. The display will show the MMSI (or name) of the vessel transmitting the All Ships Call and the radio automatically switches to the requested channel (but, the display will not change).
2. Press any key to stop the alarm.
3. Press the [▼(**DOWN**)] key to display the “Nature of Call”.
4. Press the [**CLR**(**WX**)] key to display the operating channel number of the requested channel.
5. Press the **PTT** switch on the microphone and talk to the calling ship.



9.5 INDIVIDUAL CALL

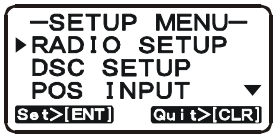
This feature allows the **GX1100E** to contact another vessel with a DSC VHF radio and automatically switch the receiving radio to a desired communications channel. This feature is similar to calling a vessel on CH16 and requesting to go to another channel (switching to the channel is private between the two stations).

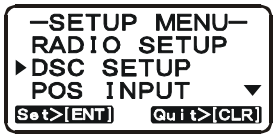
9.5.1 Setting up the Individual / Position Call Directory

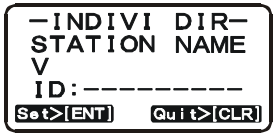
The **GX1100E** has a DSC directory that allows you to store a vessel or person's name and the MMSI number associated with vessels you wish to transmit Individual calls, Position Requests and Position Send transmissions.

To transmit an Individual call you must program this directory with the information of the persons you wish to call, similar to a cellular phones directory.

1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appears.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**DSC SETUP**" menu.
3. Press the [**ENT**] key, then select "**INDIV DIR**" with the [▲(**UP**)] / [▼(**DOWN**)] keys.
4. Press the [**ENT**] key, then select "**ADD**" with the [▲(**UP**)] / [▼(**DOWN**)] keys.
5. Press the [**ENT**] key.
6. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to scroll to the first letter of the name of the vessel or person you want to list in the directory.
7. Press the [**ENT**] key to store the first letter of the name and step to the next letter to the right.
8. Repeat step 6 and 7 until the name is complete. The name can consist of up to eleven characters, if you do not use all eleven characters press the [**ENT**] key to move to the next space. This method can also be used to enter a blank space in the name. To clear the previous letter, press the [**CLR**(**WX**)] key.
9. After the eleventh letter or space has been entered, press and hold the [**ENT**] key to advance to the MMSI number (Maritime Mobile Service Identity Number) entry.
10. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to scroll through numbers, 0-9. To enter the desired num-







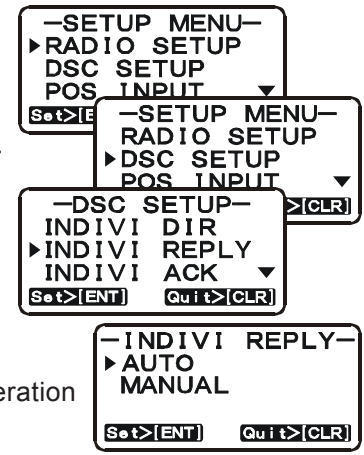
ber and move one space to the right press the [**ENT**] key. Repeat this procedure until all nine spaces of the MMSI number are entered.

11. If a mistake was made entering in the name or the MMSI number repeat pressing the microphone's [**H/L**] key until the wrong character is selected, then press the [▲(**UP**)] / [▼(**DOWN**)] keys to correct the entry.
12. To store the data entered, press and hold the [**ENT**] key.
13. To enter another individual address, repeat steps 4 through 12.
14. To exit this menu and return to radio operation mode press the [**16/9**] key.

9.5.2 Setting up Individual Reply

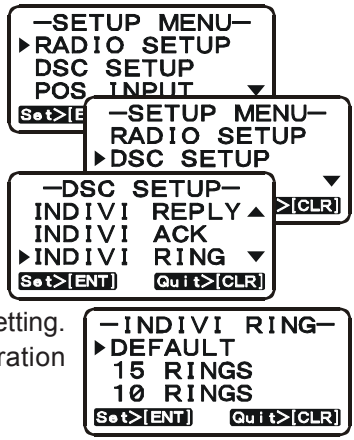
Allows setting up the radio to automatically (default setting) or manually respond to a DSC Individual call requesting you to switch to a working channel for voice communications. When Manual is selected the MMSI of the calling vessel is shown allowing you to see who is calling. This function is similar to caller id on a cellular phone.

1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appears.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**DSC SETUP**" menu.
3. Press the [**ENT**] key, then select "**INDIV REPLY**" with the [▲(**UP**)] / [▼(**DOWN**)] keys.
4. Press the [**ENT**]key.
5. Turn the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**AUTO**" or "**MANUAL**."
6. Press the [**ENT**] key to store the selected setting.
7. To exit this menu and return to radio operation mode press the [**16/9**] key.



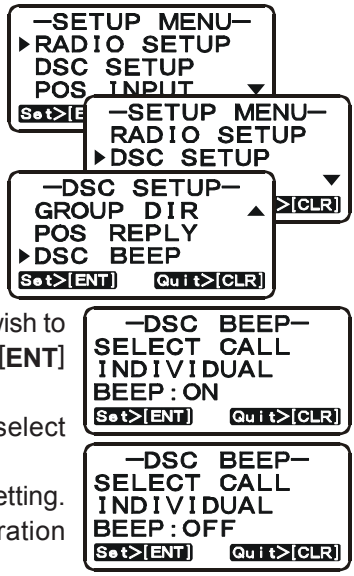
9.5.3 Setting up the Individual/Group Call Ringer

When a Individual Call or Group Call is received the radio will produce a ringing tone for 3 minutes. This selection allows the Individual Call ringer time to be changed.



1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appears.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**DSC SETUP**" menu.
3. Press the [**ENT**] key, then select "**INDIV RING**" with the [▲(**UP**)] / [▼(**DOWN**)] keys.
4. Press the [**ENT**] key.
5. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select ringing time of a Individual Call.
6. Press the [**ENT**] key to store the selected setting.
7. To exit this menu and return to radio operation mode press the [**16/9**] key.

The **GX1100E** has the capability to turn off the Individual call ringer.



1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appears.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**DSC SETUP**" menu.
3. Press the [**ENT**] key, then select "**DSC BEEP**" with the [▲(**UP**)] / [▼(**DOWN**)] keys.
4. Press the [**ENT**] key.
5. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**INDIVIDUAL**" if you wish to disable the Individual Call ringer, or "**GROUP**" if you wish to disable the Group Call ringer and press the [**ENT**] key.
6. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**OFF**."
7. Press the [**ENT**] key to store the selected setting.
8. To exit this menu and return to radio operation mode press the [**16/9**] key.

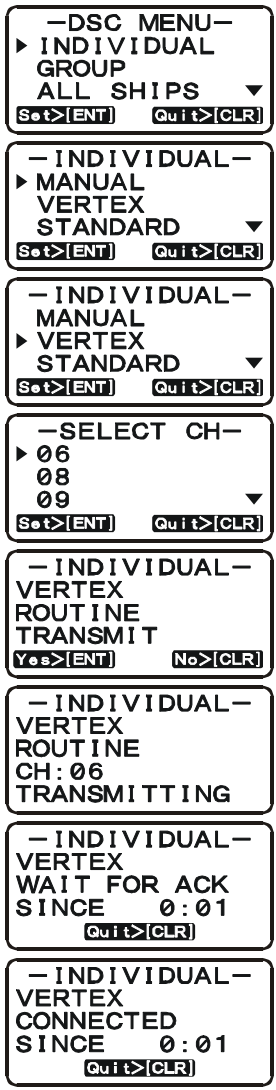
If you wish to return to enabling the ringer tone, just repeat the above procedure, pressing the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**ON**" in step "6" above.

9.5.4 Transmitting an Individual Call

This feature allows the user to contact another vessel with a DSC radio. This feature is similar to calling a vessel on CH16 and requesting to go to another channel.

Pre-Programmable Calling

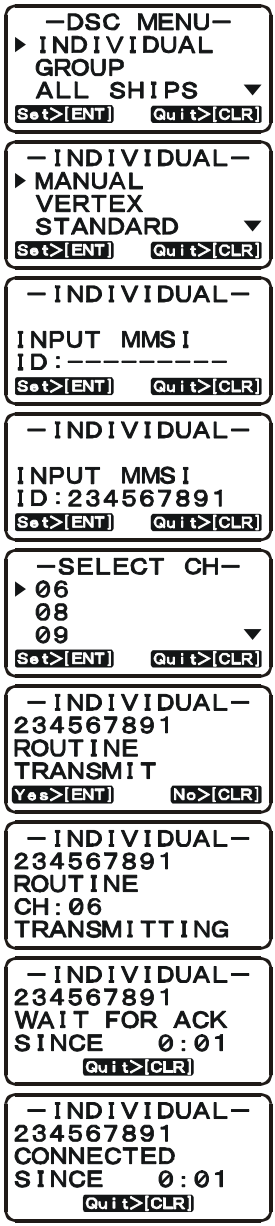
1. Press the [**CALL**(**MENU**)] key. The "**DSC MENU**" will appear.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**INDIVIDUAL**". (To cancel, press the [**16/9**] or [**CLR**] key.)
3. Press the [**ENT**] key. The transceiver will beep, and the "Individual directory" will appear.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the "Individual" you want to contact.
5. Press the [**ENT**] key, then press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the operating channel you want to communicate on and press the [**ENT**] key.
6. Press the [**ENT**] key again to transmit the individual DSC signal.
7. After INDIVIDUAL CALL is transmitted, if the reply signal is not received, "**WAIT FOR ACK**" notation will show on the display. To send the call again, press the [▼(**DOWN**)] key followed by the [**ENT**] key.
8. When an individual call acknowledgment is received, the established channel is automatically changed to the channel which is selected on step 5 above and a ringing tone sounds.
9. Press the [**CLR**(**WX**)] key to listen to the channel to make sure it is not busy, then key the microphone and call the other vessel you desire to communicate with.



Manual Calling

You may enter an MMSI number manually to contact without storing it in the Individual Directory.

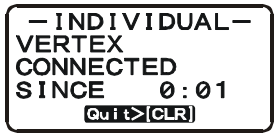
1. Press the [**CALL**(**MENU**)] key. The "**DSC MENU**" will appear.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**INDIVIDUAL**". (To cancel, press the [**16/9**] or [**CLR**(**WX**)] key.)
3. Press the [**ENT**] key. The transceiver will beep, and the "Individual directory" will appear.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**MANUAL**", then press the [**ENT**] key.
5. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to scroll through numbers, 0-9. To enter the desired number and move one space to the right, press the [**ENT**] key. Repeat this procedure until all nine spaces of the MMSI number which you want to contact are entered.
6. If a mistake was made entering in the MMSI number repeat pressing the microphone's [**H/L**] key until the wrong number is selected, then move the channel knob to correct the entry.
7. When finished entering the MMSI number, press and hold the [**ENT**] key.
8. Press the [**ENT**] key, then press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the operating channel you want to communicate on and press the [**ENT**] key.
9. Press the [**ENT**] key again to transmit the individual DSC signal.
10. After INDIVIDUAL CALL is transmitted, if the reply signal is not received, "**WAIT FOR ACK**" notation will show on the display. To send the call again, press the [▼(**DOWN**)] key followed by the [**ENT**] key.
11. When an individual call acknowledgment is received, the established channel is automatically changed to the channel which is selected on step 8 above and a ringing tone sounds.
12. Press the [**CLR**(**WX**)] key to listen to the channel to make sure it is not busy, then key the microphone and call the other vessel you desire to communicate with.



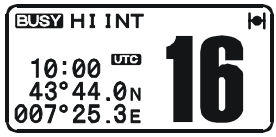
9.5.5 Receiving an Individual Call

When receiving an individual call, an acknowledgment must be sent back to the calling station. The **GX1100E** default setting is Automatic, but has a selection that allows you to manually send a reply before the radio will switch to the requested calling channel. This selection is useful if you want to see who is calling and requesting you to switch to a channel for communications, similar to caller id on a cellular phone.

1. When an individual call is received, an individual call ringing alarm sounds. The display will show the MMSI (or name) of the vessel transmitting the Individual Call and the radio automatically switches to the requested channel.



2. Press any key to stop the alarm.
3. Press the [**CLR**(**WX**)] key to show the display to the operating channel number of the requested channel.



4. Press the **PTT** switch on the microphone and talk to the calling ship.

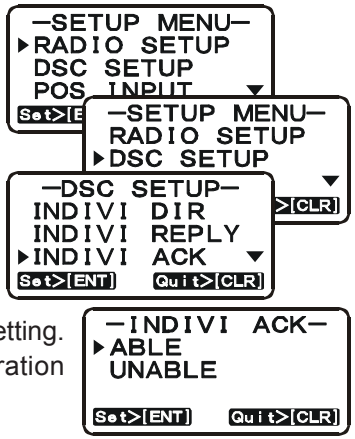
9.6 CALL WAITING DIRECTORY

The **GX1100E** logs received Distress Calls and Individual Calls into the Call Waiting Directory for review at a later time. The DSC Call Waiting feature is similar to an answer machine where calls are recorded for review. When a call is logged while the radio is set on the DSC Standby function, a "⊟" icon will appear on the display. The **GX1100E** can memorise up to the latest 20 Distress and up to the latest 38 DSC Calls.

9.6.1 Enabling/Disabling the Call Waiting Feature

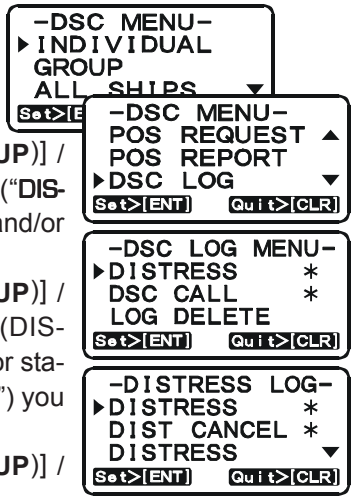
Follow the steps below to enable or disable the Call Waiting feature.

1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" menu appears.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**DSC SETUP**" menu.
3. Press the [**ENT**] key, then select "**INDIV ACK**" with the [▲(**UP**)] / [▼(**DOWN**)] keys.
4. Press the [**ENT**] key.
5. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**ABLE**" or "**UNABLE**".
6. Press the [**ENT**] key to store the selected setting.
7. To exit this menu and return to radio operation mode press the [**16/9**] key.



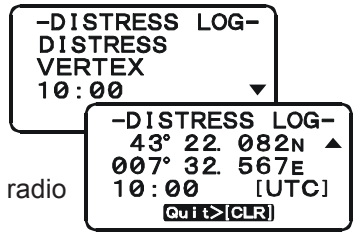
9.6.2 Reviewing Received Calls Logged into the Call Waiting Directory

1. Press the [**CALL**(**MENU**)] key. The "**DSC MENU**" will appear.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**DSC LOG**" menu.
3. Press the [**ENT**] key, then press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the category ("**DISTRESS**" or "**DSC CALL**") you want to review and/or call back.
4. Press the [**ENT**] key, then press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the category (DISTRESS or DIST CANCEL: for "**DISTRESS**") or station (name or MMSI number: for "**DSC CALL**") you want to review and/or call back.
5. Press the [**ENT**] key, then press the [▲(**UP**)] /



[▼(**DOWN**)] keys to review details for the selected category or station.

6. If you review the DSC Call, press the [**ENT**] key again, to call the selected station if desired.
7. To exit Call Waiting Directory and return to radio operation mode press the [**CLR**] key.



NOTE

When there is an unread received call, the "✳" icon will appear behind the unread category ("**DISTRESS**" or "**DSC CALL**") and station name (or MMSI number).

9.6.3 To Delete the Received Log from the "DSC Log" Directory

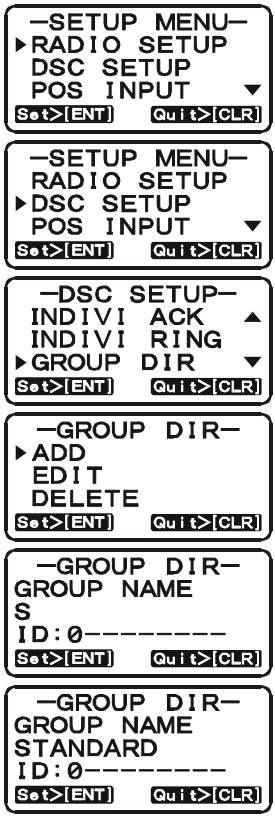
1. Press the [**CALL**(**MENU**)] key. The "DSC MENU" will appear.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "DSC LOG" menu.
3. Press the [**ENT**] key, then press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "LOG DELETE".
4. Press the [**ENT**] key, then press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the category ("DISTRESS" or "DSC CALL") to be deleted.
5. Press the [**ENT**] key, then press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the category (DISTRESS or DIST CANCEL: for "DISTRESS") or station (name or MMSI number: for "DSC CALL") to be deleted.
6. Press and hold the [**ENT**] key until the category or station (name or MMSI number) is removed from the display.
7. To exit this menu and return to radio operation mode press the [**CLR**] key.

9.7 GROUP CALL

This feature allows the user to contact a group of specific vessels (example members of a yacht club) with a group MMSI number using the Group call function to automatically switch to a desired channel for voice communications.

9.7.1 Setting up a Group Call

For this function to operate the same Group MMSI must be programmed into all the DSC VHF radios within the group of vessels that will be using this feature. The group MMSI is a 9 digit (first digit permanently set to "0") number that will allow other radios to call your vessel along with others to automatically switch to a working channel for voice communications. This function is very useful for yacht clubs and vessels traveling together that want to collectively make announcements on a predetermined channel.



1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" menu appears.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**DSC SETUP**" menu.
3. Press the [**ENT**] key, then select "**GROUP DIR**" with the [▲(**UP**)] / [▼(**DOWN**)] keys.
4. Press the [**ENT**] key, then select "**ADD**" with the [▲(**UP**)] / [▼(**DOWN**)] keys.
5. Press the [**CALL**(**MENU**)] key.
6. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to scroll through the first letter of the group name you want to reference in the directory.
7. Press the [**ENT**] key to store the first letter in the name and step to the next letter to the right.
8. Repeat step 6 and 7 until the name is complete. The name can consist of up to eleven characters, if you do not use all eleven characters press the [**ENT**] key to move to the next space. This method can also be used to enter a blank space in the name. To clear the previous letter, press the [**CLR**(**WX**)] key.
9. After the eleventh letter or space has been entered, press and hold the [**ENT**] key to advance to the MMSI number (Maritime Mobile Service Identity Number) entry.
10. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to scroll through numbers, 0-9. To enter the desired number and move one space to the right press the [**ENT**]

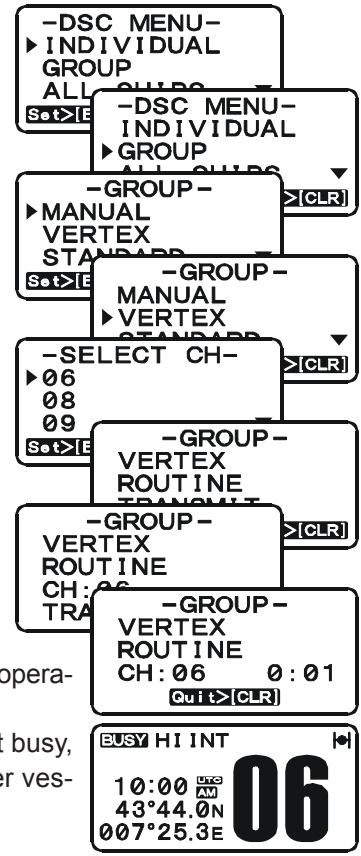
key. Repeat this procedure until all nine space of the MMSI number are entered.

11. If a mistake was made entering in the name or the MMSI number repeat pressing the microphone's [**H/L**] key until the wrong character is selected, then move the channel knob to correct the entry.
12. To store the data entered, press and hold the [**ENT**] key.
13. To enter another individual address, repeat steps 4 through 12.
14. To exit this menu and return to radio operation mode press the [**16/9**] key.

9.7.2 Transmitting a Group Call

Pre-Programmable Calling

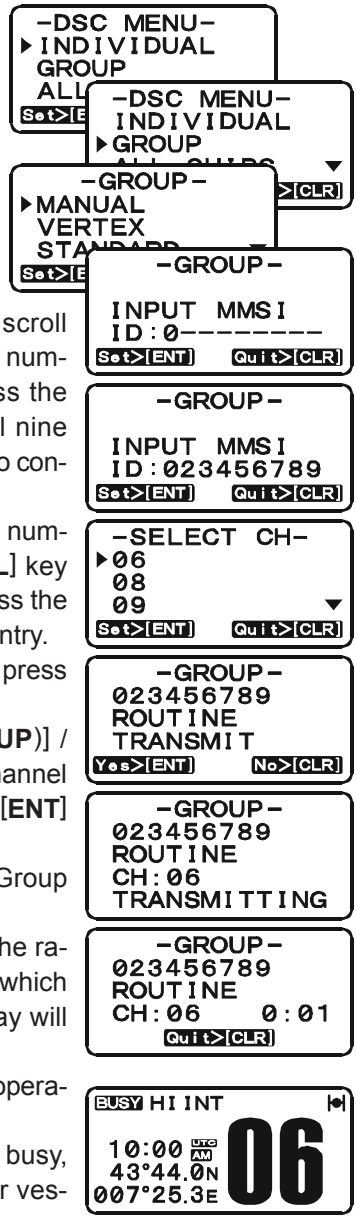
1. Press the [**CALL**(**MENU**)] key. The "**DSC MENU**" will appear.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**GROUP**". (To cancel, press the [**16/9**] key or [**CLR**] key.)
3. Press the [**ENT**] key. The transceiver will beep, and the "**Group Directory**" will appear.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the "**Group**" you want to contact.
5. Press the [**ENT**] key, then press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the operating channel you want to communicate on and press the [**ENT**] key.
6. Press the [**ENT**] key again to transmit the Group Call signal.
7. After the GROUP CALL is transmitted, all the radios in the group will switch to the channel which is selected on step 5 above (but, the display will not change).
8. Press the [**CLR**(**WX**)] key to return to radio operation mode.
9. Listen to the channel to make sure it is not busy, then key the microphone and call the other vessels you desire to communicate with.



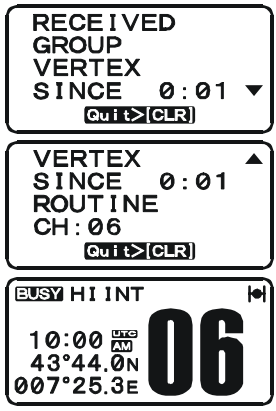
Manual Calling

You may enter an MMSI number manually to contact without the Setting up the Group call number.

1. Press the [**CALL**(**MENU**)] key. The "**DSC MENU**" will appear.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**GROUP**". (To cancel, press the [**16/9**] key or [**CLR**(**WX**)] key.)
3. Press the [**ENT**] key. The transceiver will beep, and the "**Group Directory**" will appear.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**MANUAL**", then press the [**ENT**] key.
5. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to scroll through numbers, 0-9. To enter the desired number and move one space to the right press the [**ENT**] key. Repeat this procedure until all nine space of the MMSI number which you want to contact are entered.
6. If a mistake was made entering in the MMSI number, repeat pressing the microphone's [**H/L**] key until the wrong nunber is selected, then press the [▲(**UP**)] / [▼(**DOWN**)] keys to correct the entry.
7. When finish the entering the MMSI number, press and hold the [**ENT**] key.
8. Press the [**ENT**] key, then press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the operating channel you want to communicate on and press the [**ENT**] key.
9. Press the [**ENT**] key again to transmit the Group Call signal.
10. After the GROUP CALL is transmitted, all the radios in the group will switch to the channel which is selected on step 5 above (but, the display will not change).
11. Press the [**CLR**(**WX**)] key to return to radio operation mod.
12. Listen to the channel to make sure it is not busy, then key the microphone and call the other vessels you desire to communicate with.



9.7.3 Receiving a Group Call



1. When a group call is received, the **GX1100E** will produce a ringing alarm sound.
   The display will show the MMSI (or name) of the vessel transmitting the Group Call and the radio automatically switches to the requested channel (but, the display will not change).
2. Press any key to stop the alarm.
3. Press the [▼(**DOWN**)] key to display the "Nature of Call".
4. Press the [**CLR**(**WX**)] key to display the operating channel number of the requested channel.
5. Monitor the channel for the person calling the Group for a message.
6. If you want to respond, monitor the channel to make sure it is clear, then press the **PTT** on the mic and talk to the calling ship(s).

NOTE

When there is an unread Group Call, the "**DSC**" icon will blink. You may review the unread Group Call from the DSC Log, refer to section **"9.6.2 Reviewing Received Calls Logged into the Call Waiting Directory**."

NOTE

After a Group call is received, the time the call was made and the ships MMSI or vessels name will appear on the LCD.

9.8 POSITION REQUEST

Advancements in DSC have made it possible to poll the location of another vessel and show the position of that vessel on the display of the **GX1100E**. Standard Horizon has taken this feature one step further, if any Standard Horizon GPS is connected to the **GX1100E**, the polled position of the vessel is shown on the display of the GPS chart plotter making it easy to navigate to the location of the polled vessel. This is a great feature for anyone wanting to know the position of another vessel. For example your friend that is catching fish, or finding the location of a person you are cruising with.

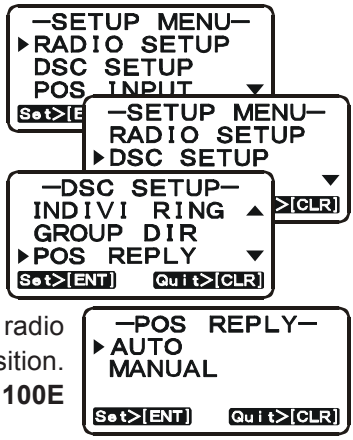
NOTE

The other vessel must have an operating GPS receiver connected to its DSC transceiver and must not have its transceiver set to deny position requests. (Refer the section "**9.5.1 Setting up the Individual / Position Call Directory**" to enter information into the individual directory).

9.8.1 Setting up Position Reply

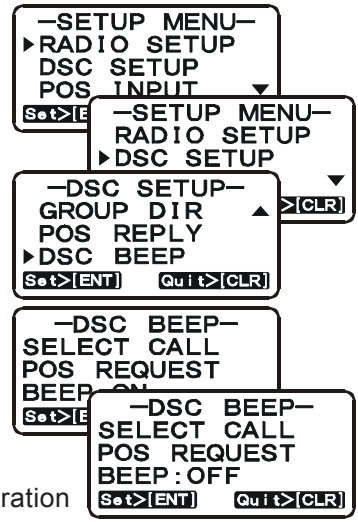
The **GX1100E** can be set up to automatically or manually send your position to another vessel. This selection is important if you are concerned about someone polling the position of your vessel that you may not want to. In the manual mode you will see the MMSI or persons name shown on the display allowing you to choose to send your position to the requesting vessel.

1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appear.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**DSC SETUP**" menu.
3. Press the [**ENT**] key, then select "**POS REPLY**" with the [▲(**UP**)] / [▼(**DOWN**)] keys.
4. Press the [**ENT**] key.
5. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**AUTO**" or "**MANUAL**". In "**AUTO**" mode, after a DSC POS Request is received, the radio will automatically transmit your vessels position. In "**MANUAL**" mode, the display of the **GX1100E** will show who is requesting the position.
6. Press the [**ENT**] key to store the selected setting.
7. To exit this menu and return to radio operation mode press the [**16/9**] key.



The **GX1100E** has the capability to turn off the Position Request ringer.

1. Press and hold down the [**CALL**(**MENU**)] key until "SETUP MENU" appears.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "DSC SETUP" menu.
3. Press the [**ENT**] key, then select "DSC BEEP" with the [▲(**UP**)] / [▼(**DOWN**)] keys.
4. Press the [**ENT**] key.
5. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "POS REQUEST".
6. Press the [**ENT**] key.
7. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "OFF".
8. Press the [**ENT**] key to store the selected setting.
9. To exit this menu and return to radio operation mode press the [**16/9**] key.

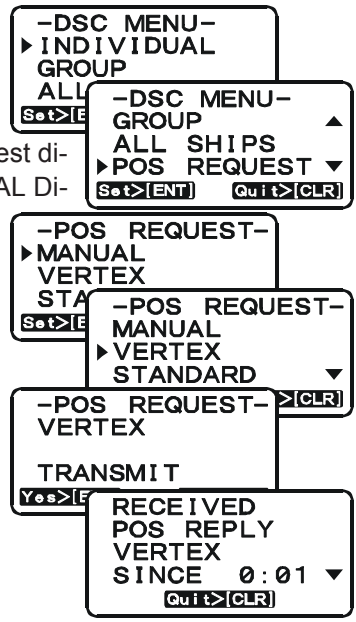


If you wish to return to enabling the ringer tone, just repeat the above procedure, pressing the [▲(**UP**)] / [▼(**DOWN**)] keys to select "ON" in step "7" above.

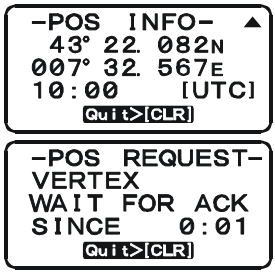
9.8.2 Transmitting a Position Request to Another Vessel

Pre-Programmable Request

1. Press the [**CALL**(**MENU**)] key. The "DSC MENU" will appear in the display.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "POS REQUEST".
3. Press [**ENT**] key to show the Position request directory. This directory uses the INDIVIDUAL Directory information.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select a name, then press the [**ENT**] key.
5. Press the [**ENT**] key to transmit the position request DSC call.
6. When the **GX1100E** receives the position from the polled vessel, the **GX1100E** will produce a ringing alarm sound and the position from the polled vessel transferred to the GPS Chart plotter.
7. Press any key to stop the alarm.



8. Press the [▼(**DOWN**)] key to show the position from the polled vessel transferred on the display.
9. If the **GX1100E** does not receive a reply, the display will be as shown in the illustration on the right. To send again, press the [**ENT**] key.



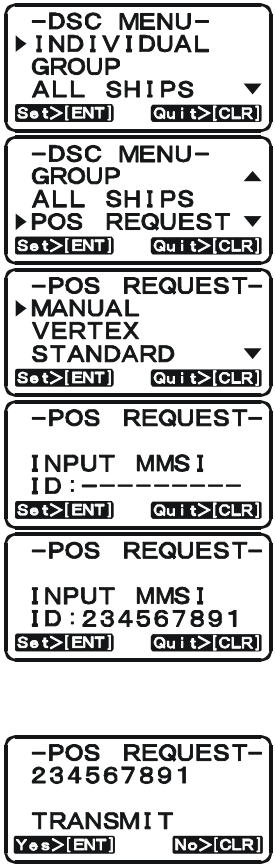
NOTE

If the **GX1100E** does not receive position data from the polled vessel, the LCD will show "NO POSITION DATA."

Manual Request

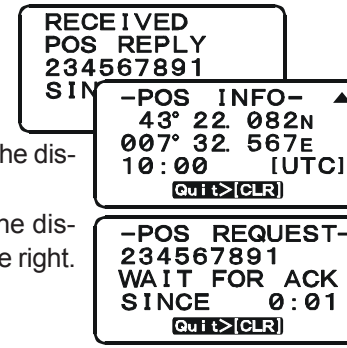
You may enter an MMSI number manually to contact without the Setting up the Individual / Position Call Directory.

1. Press the [**CALL**(**MENU**)] key. The "**DSC MENU**" will appear in the display.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**POS REQUEST**".
3. Press [**ENT**] key to show the Position request directory. This directory uses the INDIVIDUAL Directory information.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the "**MANUAL**", then press the [**ENT**] key.
5. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to scroll through numbers, 0-9. To enter the desired number and move one space to the right press the [**ENT**] key. Repeat this procedure until all nine space of the MMSI number which you want to contact are entered.
6. If a mistake was made entering in the MMSI number repeat pressing the microphone's [**H/L**] key until the wrong nunber is selected, then press the [▲(**UP**)] / [▼(**DOWN**)] keys to correct the entry.
7. When finished entering the MMSI number, press and hold the [**ENT**] key.
8. Press the [**ENT**] key to transmit the position request DSC call.
9. When the **GX1100E** receives the position from the polled vessel, the **GX1100E** will produce a ringing



alarm sound and the position from the polled vessel transferred to the GPS Chart plotter.

10. Press any key to stop the alarm.
11. Press the [▼(**DOWN**)] key to show the position from the polled vessel transferred on the display.
12. If the **GX1100E** does not receive a reply, the display will be as shown in the illustration on the right. To send again, press the [**ENT**] key.



9.8.3 Receiving a Position Request

When a position request call is received from another vessel, a ringing alarm will sound and POS REQUEST will be shown in the LCD. Operation and transceiver function differs depending on "**POS REPLY**" in the "**DSC SETUP**" menu setting.

Automatically reply:

1. When a position request call is received, a calling alarm sounds 5 times. Then requested position coordinates are transmitted automatically to the vessel requesting your vessels position.
2. To exit from position request display, press the [**CLR**] key.

Manually reply:

1. When a position request call is received from another vessel, the **GX1100E** will produce a ringing alarm sound and the LCD will be as shown in the illustration at the right.
2. Press any key to stop the alarm.
3. Press the [**ENT**] key to send your position to the requesting vessel, or press the [**CLR**(**WX**)] key.
4. To exit from position request display, press the [**16/9**] key.

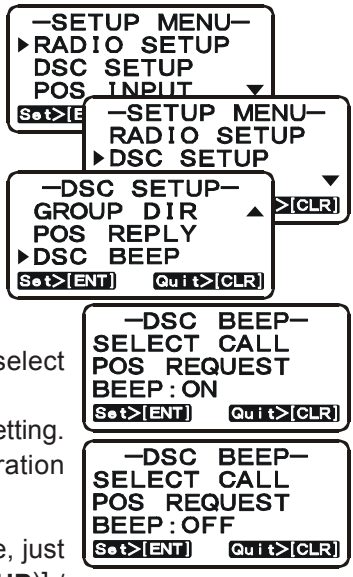
9.9 POSITION REPORT

The feature is similar to Position Request, however instead of requesting a position of another vessel this function allows you to send your position to another vessel. In order to send your position you need to have a GPS receiver connected or to have manually input your position. See section "**9.11 MANUAL INPUTTING OF THE GPS LOCATION**."

9.9.1 Setting up a Position Report Ringer

The **GX1100E** has the capability to turn off the Position Report ringer.

1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appears.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**DSC SETUP**" menu.
3. Press the [**ENT**] key, then select "**DSC BEEP**" with the [▲(**UP**)] / [▼(**DOWN**)] keys.
4. Press the [**ENT**] key.
5. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**POSITION REPORT**".
6. Press the [**ENT**] key.
7. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**OFF**".
8. Press the [**ENT**] key to store the selected setting.
9. To exit this menu and return to radio operation mode press the [**16/9**] key.

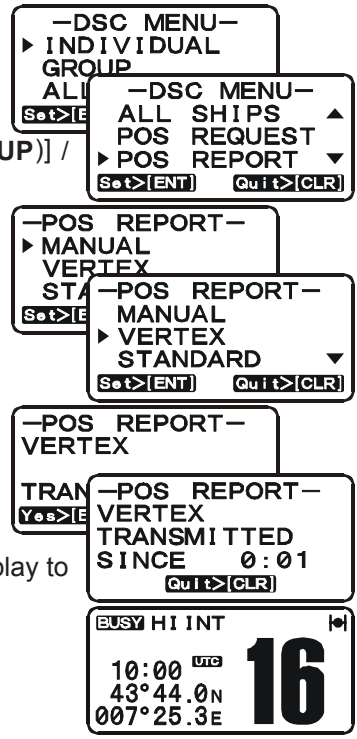


If you wish to return to enabling the ringer tone, just repeat the above procedure, pressing the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**ON**" in step "7" above.

9.9.2 Transmitting a DSC Position Report Call

Pre-Programmable Calling

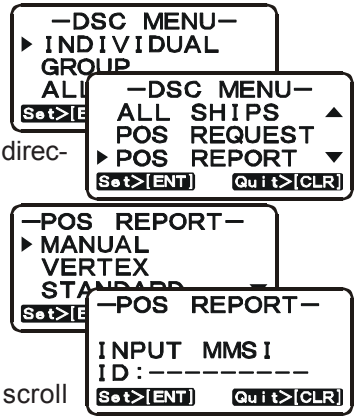
1. Press the [**CALL**(**MENU**)] key. The "**DSC MENU**" will appear in the display.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the "**POS REPORT**".
3. Press the [**ENT**] key, then press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the category ("**ROUTINE**" or "**SAFETY**") for the Position Report Call.
4. Press the [**ENT**] key to show the Position Request Directory. This directory uses the Individual Directory information.
5. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select a "Individual" you want to send your position to, then press the [**ENT**] key.
6. Press the [**ENT**] key again to send your position to the selected vessel.
7. Press the [**CLR**(**WX**)] key to return the display to the radio operation mode display.



Manual Calling

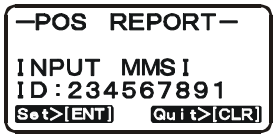
You may enter an MMSI number manually to call without Setting up the Individual / Position Call Directory.

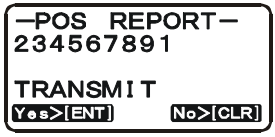
1. Press the [**CALL**(**MENU**)] key. The "**DSC MENU**" will appear in the display.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the "**POS SREPORT**".
3. Press [**ENT**] key to show the Position Send directory. This directory uses the INDIVIDUAL Directory information.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**MANUAL**", then press the [**ENT**] key.
5. Enter the MMSI number (nine digits) which you want to contact.
   Press the [▲(**UP**)] / [▼(**DOWN**)] keys to scroll through numbers, 0-9. To enter the desired number and move one space to the right, press the [**ENT**] key. Repeat this

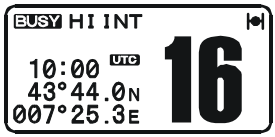


procedure until all nine spaces of the MMSI number which you want to contact are entered.

6. If a mistake was made entering in the MMSI number repeat pressing the microphone's [**H/L**] key until the wrong nunber is selected, then move the channel knob to correct the entry.
7. When finished entering the MMSI number, press and hold the [**ENT**] key.
8. Press the [**ENT**] key to send your position to the selected vessel.
9. Press the [**CLR**(**WX**)] key to return the display to the radio operation mode display.



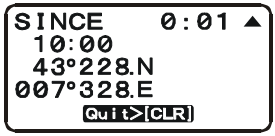


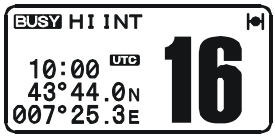


9.9.3 Receiving a DSC Position Report Call

When another vessel transmits their location to the **GX1100E** the following will happen:

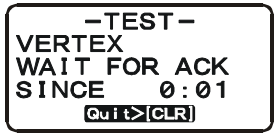
1. When the Position Report Call is received, a ringing sound will be produced and the display shows received data. Transfer the received data to any Standard Horizon GPS Chart plotter if connected.
2. Press any key to stop ringing.
3. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to change the display to view the received data.
4. Press the [**CLR**(**WX**)] key to return the display to the radio operation mode display.





9.10 DSC TRANSMISSION TEST

1. Press the [**CALL**(**MENU**)] key. The "**DSC MENU**" will appear in the display.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the "**DSC TEST**".
3. Press the [**ENT**] key, then select the station (name or MMSI number) to be sent the test signal with the [▲(**UP**)] / [▼(**DOWN**)] keys. This directory uses the Individual Directory information.
4. If "Manual" is selected at the previous step, enter the MMSI number (nine digits) which you want to send the test signal. To do this, press the [▲(**UP**)] / [▼(**DOWN**)] keys to scroll through numbers "0-9," then press the [**ENT**] key to move the entry location to the right. If a mistake was made entering in the MMSI number, repeat pressing the microphone's [**H/L**] key until the wrong number is selected, then press the [▲(**UP**)] / [▼(**DOWN**)] keys to correct the entry. When finished entering the MMSI number, press and hold the [**ENT**] key.
5. Press the [**ENT**] key again to transmit the Test signal.
6. After DSC TEST CALL is transmitted, if the reply signal is not received, "**WAIT FOR ACK**" notition will show on the display.
7. When an acknowledgment is received, a ringing tone sounds and the display shows received data.
8. Press the [**CLR**(**WX**)] key to return the display to the radio operation mode display.

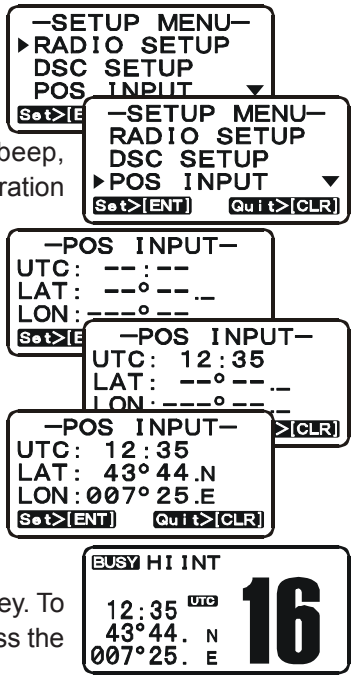


9.11 MANUAL INPUTTING OF THE GPS LOCATION (LAT/LON)

You may send the Latitude/Longitude of your vessel manually even if the **GX1100E** is not connected the GPS receiver unit.

After the position is entered, transmitting a DSC Distress, Position Request, or Position Send will contain the manually entered position.

1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appears.
2. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select "**POS INPUT**" menu.
3. Press the [**ENT**] key. The transceiver will beep, and the display will be as shown in the illustration on the right.
4. Enter your local time by the 24-hour system on the UTC time. Use the [**ENT**] and the microphone's [**H/L**] key to navigate to each column of the time, then use the [▲(**UP**)] / [▼(**DOWN**)] keys to select the desired numbers in each colum. Repeat for each column, to complete the time.
5. Enter the Latitude/Longitude of your vessel location with the same procedure as description above.
6. To store the data entered, press the [**ENT**] key. To exit this menu and return to radio mode press the [**16/9**] key.

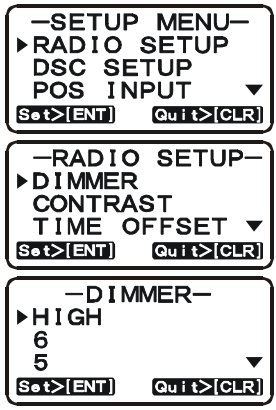


10 RADIO SETUP

10.1 LAMP ADJUSTING

Allows adjustment of the backlight intensity or to turn it off.

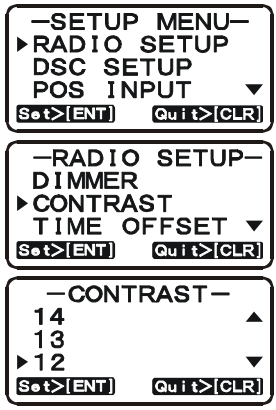
1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appears.
2. Press the [**ENT**] key, then select "**DIMMER**" in the "**RADIO SETUP**" menu with the [▲(**UP**)] / [▼(**DOWN**)] keys.
3. Press the [**ENT**] key.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the desired level. When "**OFF**" is selected, the lamp is extinguished.
5. Press the [**ENT**] key to store the selected level.
6. To exit this menu and return to radio operation mode press the [**16/9**] key.



10.2 LCD CONTRAST

This selection sets up the display for best viewabilty for the varying mounting locations (overhead or below).

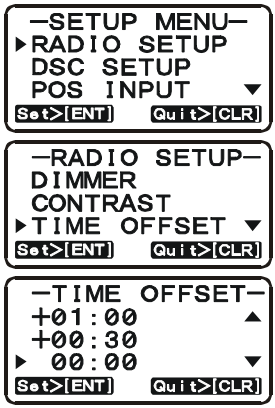
1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appears.
2. Press the [**ENT**] key, then select "**CONTRAST**" in the "**RADIO SETUP**" menu with the [▲(**UP**)] / [▼(**DOWN**)] keys.
3. Press the [**ENT**] key.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the desired level. The contrast level can be set from "**00**" to "**24**".
5. Press the [**ENT**] key to store the selected level.
6. To exit this menu and return to radio operation mode press the [**16/9**] key.

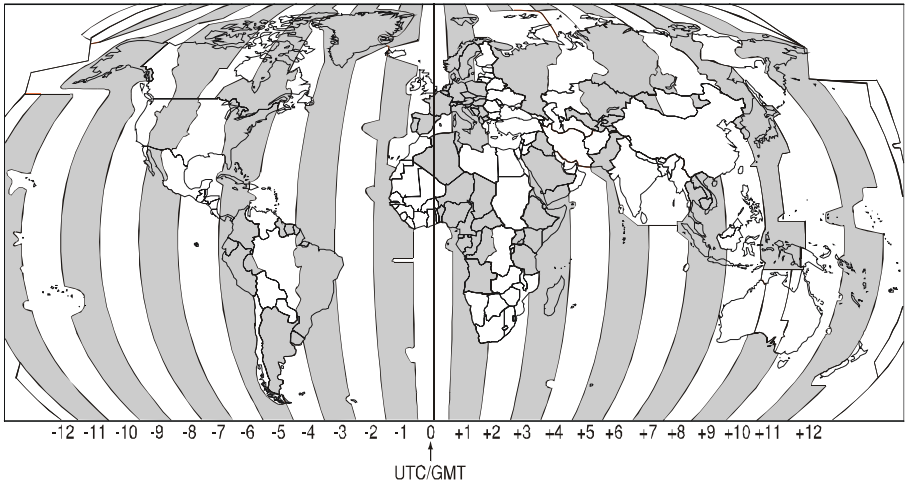


10.3 TIME OFFSET

This selection sets the time offset between local time and UTC (time GPS sends to radio).

1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appears.
2. Press the [**ENT**] key, then select "**TIME OFFSET**" in the "**RADIO SETUP**" menu with the [▲(**UP**)] / [▼(**DOWN**)] keys.
3. Press the [**ENT**] key.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select time offset from UTC. See illustration below to find your offset time from UTC. If "**00:00**" is assigned, the time is the same as UTC (Universal Time Co-ordinated or GMT Greenwich Mean Time).
5. Press the [**ENT**] key to store the time offset.
6. To exit this menu and return to radio operation mode press the [**16/9**] key.



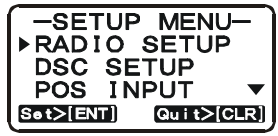


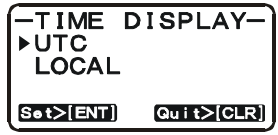
OFFSET TIME TABLE

10.4 TIME DISPLAY

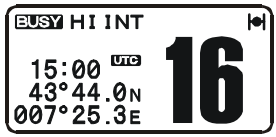
This selection selects the time display between local time and UTC (time GPS sends to radio).

1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appears.
2. Press the [**ENT**] key, then select "**TIME DISPLAY**" in the "**RADIO SETUP**" menu with the [▲(**UP**)] / [▼(**DOWN**)] keys.
3. Press the [**ENT**] key.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys. to select "**UTC**" or "**LOCAL**".
5. Press the [**ENT**] key to store the selected setting.
6. To exit this menu and return to radio operation mode press the [**16/9**] key.

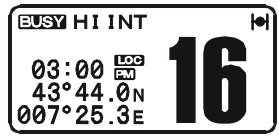




In the Local time mode, the display shows the time by the 12-hour system. Meanwhile, the display shows the time by the 24-hour system in the UTC time mode.



("**UTC**" mode)

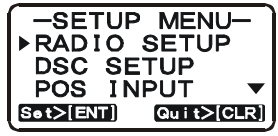


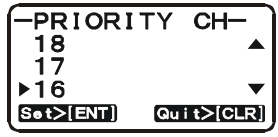
("**LOCAL**" mode)

10.5 PRIORITY CHANNEL SET

Allows selection of the priority channel.

1. Press and hold down the [**CALL**(**MENU**)] key until "**SETUP MENU**" appears.
2. Press the [**ENT**] key, then select "**PRIORITY CH**" in the "**RADIO SETUP**" menu with the [▲(**UP**)] / [▼(**DOWN**)] keys.
3. Press the [**ENT**] key.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the channel to be a priority.
5. Press the [**ENT**] key to store the selected setting.
6. To exit this menu and return to radio operation mode press the [**16/9**] key.

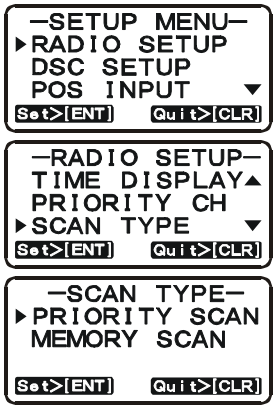




10.6 SCAN TYPE

This selection selects the scan mode between “Memory Scan” and “Priority Scan.”

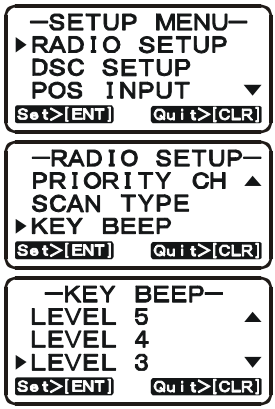
1. Press and hold down the [**CALL**(**MENU**)] key until “**SETUP MENU**” appears.
2. Press the [**ENT**] key, then select “**SCAN TYPE**” in the “**RADIO SETUP**” menu with the [▲(**UP**)] / [▼(**DOWN**)] keys.
3. Press the [**ENT**] key.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select “**PRIORITY SCAN**” or “**MEMORY SCAN**”.
5. Press the [**ENT**] key to store the selected setting.
6. To exit this menu and return to radio operation mode press the [**16/9**] key.



10.7 KEY BEEP (ON/OFF)

This selection allows the beep tone when a key is pressed to be turned off.

1. Press and hold down the [**CALL**(**MENU**)] key until “**SETUP MENU**” appears.
2. Press the [**ENT**] key, then select “**KEY BEEP**” in the “**RADIO SETUP**” menu with the [▲(**UP**)] / [▼(**DOWN**)] keys.
3. Press the [**ENT**] key.
4. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select desired beep level.
5. Press the [**ENT**] key to set the key beep condition.
6. To exit this menu and return to radio operation mode press the [**16/9**] key.



NOTE

Emergency alarm and beeps for DSC operation cannot be turned OFF.

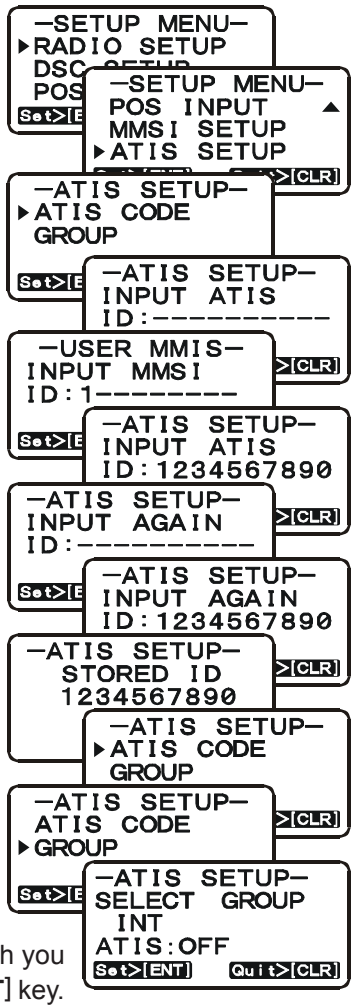
11 PROGRAMMING THE ATIS CODE

A ten digit ATIS code is used for an automatic transmitter identification system in inland water ways in various countries in Europe. The **GX1100E** transmit the ATIS code at the end of every transmission, which is monitored by marine coast stations. Please contact your dealer for information on how to obtain an ATIS Code.

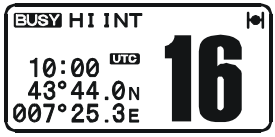
WARNING

A User ATIS code can be input only once. Therefore, ***please be careful not to input the incorrect ATIS code***. If the user needs to change the ATIS code after it has been entered, the radio will have to be returned to Factory Service.

1. Press and hold down the [**CALL**(**MENU**)] key until the "**SETUP MENU**" appears.
2. Press the [▼(**DOWN**)] key repeatedly until the "**ATIS SETUP**" menu appears.
3. Press the [**ENT**] key, then select "**ATIS CODE**" in the "**ATIS SETUP**" menu with the [▲(**UP**)] / [▼(**DOWN**)] keys.
4. Press the [**ENT**] key. The display will show a series of dashes.
5. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the first number of your ATIS code, then press the [**ENT**] key to step to the next number.
6. Repeat step 5 to set your ATIS code (up to ten digits).
7. When finished programming the number, press and hold the [**ENT**] key. A confirmation message appears on the display. Set your ATIS code again, then press and hold the [**ENT**] key.
8. Press the [**ENT**] key to store the number in memory and return to the "**ATIS SETUP**" menu.
9. Press the [▼(**DOWN**)] key once and "**GROUP**" appears in the menu, then press the [**ENT**] key.
10. Press the [▲(**UP**)] / [▼(**DOWN**)] keys to select the "mode" (INT, USA, or CAN) on which you wish to enable the ATIS, then press the [**ENT**] key.



11. Press the [▲(**UP**)] key to enable the ATIS (an "**OFF**" notation will replace the "**ON**" notation), then press the [**ENT**] key.
12. Repeat steps 10 and 11 for other "mode", if necessary.
13. Press the [**16/9**] key to exit "**ATIS SETUP**" menu and return to radio operation mode.



12 MAINTENANCE

The inherent quality of the solid-state components used in this transceiver will provide many years of continuous use. Taking the following precautions however, will prevent damage to the transceiver.

- Keep the microphone connected or the jack covered at all times to prevent corrosion of electrical contacts;
- Never key the microphone unless an antenna or suitable dummy load is connected to the transceiver.
- Ensure that the supply voltage to the transceiver does not exceed 16 VDC or fall below 11 VDC.
- Use only STANDARD HORIZON-approved accessories and replacement parts.

In the unlikely event of serious problems, please contact your Dealer or our repair facility.

12.1 REPLACEMENT PARTS

- **Power Cord**: T9025406
- **Fuse**: Q0000127 (6A, 250V, Glass Tube Type)
- **VOL/SQL Knob** (**Black**): RA0757600
- **VOL/SQL Knob** (**White**): RA0763500
- **Mounting Bracket** (**Black**): RA0784000
- **Mounting Bracket** (**White**): RA0784100
- **Mounting Bracket Knob** (**Black**): RA045910A
- **Mounting Bracket Knob** (**White**): RA043770A
- **Microphone Hanger** (**Black**): RA0458800
- **Microphone Hanger** (**White**): RA0436000

12.2 FACTORY SERVICE

In the unlikely event that the radio fails to perform or needs servicing, please contact your Dealer or Marine Division of Vertex Standard.

An “RA” Return Authorisation number is not necessary to send a product in for service. Include a brief note describing the problem along with your name, return address, phone number, and proof of purchase.

12.3 TROUBLESHOOTING CHART

SYMPTOM	PROBABLE CAUSE	REMEDY
Transceiver fails to power up.	No DC voltage to the transceiver, or blown fuse.	a. Check the 12VDC battery connections and the fuse. b. The **PWR** key needs to be rotated clockwise to turn the radio on.
Transceiver blows fuse when connected to power supply.	Reversed power wires.	Check the power cable for DC voltage, or replace the fuse (6A 250V). Make sure the red wire is connected to the positive (+) battery post, and the black wire is connected to the negative (-) battery post. If the fuse still blows, contact your Dealer.
Popping or whining noise from the speaker while engine runs.	Engine noise.	Reroute the DC power cables away from the engine. Add noise suppressor on power cable. Change to resistive spark plug wires and/or add an alternator whine filter.
Sound is not emitted from the internal or external speaker.	Accessory cable.	Check the connections of the accessory cable (Possible short circuit on the External speaker cable WHITE/SHIELD).
Receiving station report low transmit power, even with transceiver set to HI power.	Antenna.	Have the antenna checked or test the transceiver with another antenna. If the problem persists, contact your Dealer for servicing.
"HI BATTERY" or "LO BATTERY" message is appeared when the power is turned on.	The power supply voltage is too high or too low.	Confirm that the connected power supply voltage is between 10 volts and 17 volts DC. Confirm that the generator has not malfunctioned.
Your position is not displayed.	Accessory cable.	Check the accessory cable connection. Some GPS use the battery ground line for NMEA connection.
	Setting of the GPS navigation receiver.	Check the output signal format of the GPS navigation receiver. This radio requires NMEA0183 format with GLL, RMB, GGA, or GNS sentence as an output signal. If the GPS has a baud rate setting make sure to select 4800 and parity to NONE.

13 CHANNEL ASSIGNMENTS

Tables on the following columns list the VHF Marine Channel assignments for U.S.A. and International use. Below are listed some data about the charts.

1. VTS. Where indicated, these channels are part of the U.S. Coast Guard's **V**essel **T**raffic **S**ystem.
2. Alpha channel numbers, that is, channel numbers followed by the letter A (such as Channel 07**A**) are ***simplex*** channels on the U.S.A. or Canadian channel assignments whose counterparts in the International assignments are ***duplex*** channels. International channels do not use "alpha" numbers. If you call the Coast Guard on Channel 16, they will sometimes ask you to "***go to channel 22 Alpha***." This is a channel assigned to U.S.A, and Canadian Coast Guards for handling distress and other calls. If your radio is set for ***International*** operation you will go to Channel 22 instead of 22**A**, and will not be able to communicate with the Coast Guard. To use Channel 22**A**, your radio must be set for ***USA*** or ***Canada*** operation, usually by a U/I/C (USA/International/Canada) control or combination of controls. Channel 22 (without an "A") is an ***International*** duplex channel for port operations. Some radios indicate an "A" adjacent to the alpha channels on the display; on others "alpha" is not indicated but the proper channel is selected based on the U/I/C setting.
3. Bridge-to-Bridge channels (for example, Channel 13) are for use by bridge operators on intercoastal waterways and rivers. It is also used by marine vessels in the vicinity of these bridges for navigation and for communicating with the bridge operators. Note that a limit of 1 Watt is specified for these channels. See page 26 for additional information.
4. The **S/D** column on the chart indicates either S (simplex) or D (duplex). ***Simplex*** means transmitting and receiving on the same frequency. Only one party at a time can talk, unlike a telephone. Be sure to say "***over***" and release your microphone push-to-talk switch at the end of each transmission. ***Duplex*** operation involves the use of one frequency for transmitting and a separate frequency for receiving. On channels specified as duplex on the charts, correct mode of operation is established automatically by your radio when you select a channel; you cannot change the mode. And you still must release the push-to-talk switch after each transmission in order to listen to the radio.
5. Channels normally used by recreational boaters are those that include the term "non-commercial" in the ***Channel Use*** column of the chart. Some of these are shared with other users and some are used only in certain geographic regions.
6. Marine vessels equipped with VHF radios are required to monitor Channel 16.

VHF MARINE CHANNEL CHART							
CH	**U**	**C**	**I**	**S/D**	**TX**	**RX**	**CHANNEL USE**
01		X	X	D	156.050	160.650	Public Correspondence (Marine Operator)
01A	X			S	156.050		Port Operation and Commercial. VTS in selected areas
02		X	X	D	156.100	160.700	Public Correspondence (Marine Operator)
03		X	X	D	156.150	160.750	Public Correspondence (Marine Operator)
03A	**X**			**S**	**156.150**		**U.S. Government Only, Coast Guard**
04			X	D	156.200	160.800	Public Correspondence (Marine Operator), Port operation, ship movement
04A		X		S	156.200		Pacific coast: Coast Guard, East Coast: Commercial fishing
05			X	D	156.250	160.850	Public Correspondence (Marine Operator), Port operation, ship movement
05A	X	X		S	156.250		Port operation. VTS in Seattle
06	X	X	X	S	156.300		Inter-ship Sefety
07			X	D	156.350	160.950	Public Correspondence (Marine Operator), Port operation, ship movement
07A	X	X		S	156.350		Commercial
08	X	X	X	S	156.400		Commercial (Inter-ship only)
09	X	X	X	S	156.450		Boater Calling channel, Commercial & Non-commercial (Recreational)
10	X	X	X	S	156.500		Commercial
11	X	X	X	S	156.550		Commercial. VTS in selected areas.
12	X	X	X	S	156.600		Port operation. VTS in selected areas.
13	X	X	X	S	156.650		Inter-ship Navigation Safety (Bridge-to-bridge)
14	X	X	X	S	156.700		Port operation. VTS in selected areas.
15	X			S	- - -	156.750	Environmental (Receive only)
15		X	X	S	156.750		Commercial, non-commercial, ship movement (1 W)
16	X	X	X	S	156.800		International Distress, Safety and Calling
17	X	X	X	S	156.850		State Controlled (1 W)
18			X	D	156.900	161.500	Port operation, ship movement
18A	X	X		S	156.900		Commercial
19			X	D	156.950	161.550	Port operation, ship movement
19A	X			S	156.950		US: Commercial
19A		X		S	156.950		Coast Guard
20	X	X	X	D	157.000	161.600	Canadian Coast Guard Only, International: port operations and shipment
20A	X			S	157.000		Port operation
21			X	D	157.050	161.650	Port operation, ship movement
21A	**X**	**X**		**S**	**157.050**		**U.S. Government Only, Canadian Coast Guard**
22			X	D	157.100	161.700	Port operation, ship movement
22A	X	X		S	157.100		US and Canadian Coast Guard Liaison and Maritime Safety Information Broadcasts announced on channel 16
23		X	X	D	157.150	161.750	Public Correspondence (Marine Operator)
23A	**X**			**S**	**157.150**		**U.S. Government Only**
24	X	X	X	D	157.200	161.800	Public Correspondence (Marine Operator)
25	X	X	X	D	157.250	161.850	Public Correspondence (Marine Operator)
26	X	X	X	D	157.300	161.900	Public Correspondence (Marine Operator)
27	X	X	X	D	157.350	161.950	Public Correspondence (Marine Operator)
28	X	X	X	D	157.400	162.000	Public Correspondence (Marine Operator)

VHF MARINE CHANNEL CHART							
CH	**U**	**C**	**I**	**S/D**	**TX**	**RX**	**CHANNEL USE**
60		X	X	D	156.025	160.625	Public Correspondence (Marine Operator)
61			X	D	156.075	160.675	Public Correspondence (Marine Operator), Port operation, ship movement
61A	**X**	**X**		**S**	**156.075**		**Public Coast: Coast Guard; East Coast: commercial fishing only**
62			X	D	156.125	160.725	Public Correspondence (Marine Operator), Port operation, ship movement
62A		X		S	156.125		Public Coast: Coast Guard; East Coast: commercial fishing only
63			X	D	156.175	160.775	Public Correspondence (Marine Operator), Port operation, ship movement
63A	X	X		S	156.175		Port Operation and Commercial. VTS in selected areas.
64		X	X	D	156.225	160.825	Public Correspondence (Marine Operator), Port operation, ship movement
64A	**X**	**X**		**S**	**156.225**		**Public Correspondence (Marine Operator), Port operation, ship movement**
65			X	D	156.275	160.875	Public Correspondence (Marine Operator), Port operation, ship movement
65A	X	X		S	156.275		Port Opeations
66			X	D	156.325	160.925	Public Correspondence (Marine Operator), Port operation, ship movement
66A	X	X		S	156.325		Port Operations
67	X	X	X	S	156.375		US: Commercial. Used for Bridge-to-bridge com muni-cations in lower Mississippi River. Inter-ship only, Canada: Commercial fishing, S&R
68	X	X	X	S	156.425		Non-commercial (Recreational)
69	X	X	X	S	156.475		US: Non-commercial (Recreational), Canada: Commercial fishing only, International: Inter-ship, Port opertions and Ship movement
70	X	X	X	S	156.525		Digital selective calling (voice communications not allowed)
71	X	X	X	S	156.575		US, Canada: Non-commercial (Recreational), International: Port opertions and Ship movement
72	X	X	X	S	156.625		Non-commercial (Inter-ship only)
73	X	X	X	S	156.675		US: Port Operations, Canada: Commercial fish ing only, International: Inter-ship, Port opertions and Ship movement
74	X	X	X	S	156.725		US: Port Operations, Canada: Commercial fishing only, International: Inter-ship, Port opertions and Ship movement
75	X	X	X	S	156.775		Port Operations (Inter-ship only) (1W)
76	X	X	X	S	156.825		Port Operations (Inter-ship only) (1W)
77	X	X		S	156.875		Port Operations (Inter-ship only) (1W)
77			X	S	156.875		Port Operations (Inter-ship only)
78			X	D	156.925	161.525	Public Correspondence (Marine Operator), Port operation, ship-movement
78A	X	X		S	156.925		Non-commercial (Recreational)
79			X	D	156.975	161.575	Port operation and Ship movement
79A	X	X		S	156.975		Commercial

VHF MARINE CHANNEL CHART							
CH	**U**	**C**	**I**	**S/D**	**TX**	**RX**	**CHANNEL USE**
80			X	D	157.025	161.625	Port operation, ship movement
80A	X	X		S	157.025		Commercial
81			X	D	157.075	161.675	Port operation, ship movement
81A	**X**			**S**	**157.075**		**U.S. Government Only - Environmental protection operations.**
81A		X		S	157.075		Canadian Coast Guard Only
82			X	D	157.125	161.725	Public Correspondence (Marine Operator), Port operation, ship movement
82A	**X**	**X**		**S**	**157.125**		**U.S. Government Only, Canadian Coast Guard Only**
83		X		D	157.175	161.775	Canadian Coast Guard Only
83			X	D	157.175	161.775	Public Correspondence (Marine Operator)
83A	**X**	**X**		**S**	**157.175**		**U.S. Government Only, Canadian Coast Guard Only**
84	X	X	X	D	157.225	161.825	Public Correspondence (Marine Operator)
85	X	X	X	D	157.275	161.875	Public Correspondence (Marine Operator)
86	X	X	X	D	157.325	161.925	Public Correspondence (Marine Operator)
87		X	X	S	157.375		Port operation, ship movement
87A	X			S	157.375		Public Correspondence (Marine Operator)
88		X	X	S	157.425		Port operation, ship movement
88A	X			S	157.425		Commercial, Inter-ship Only

NOTE: Simplex channels, 3A, 21A, 23A, 61A, 64A, 81A, 82A and 83A CANNOT be lawfully used by the general public in U.S.A. waters.

14 SPECIFICATIONS

Performance specifications are nominal, unless otherwise indicated, and are subject to change without notice.

14.1 GENERAL

Channels ..... All USA, International and Canadian
Input Voltage ..... 12.0 VDC +30% / –10% (10.8 ~ 15.6 VDC)
Current Drain
  Standby ..... 0.3 A
  Receive ..... 1.0 A
  Transmit ..... 5.5 A (Hi); 1.5 A (Lo)
Individual DSC Directory Memory 48
Group DSC Directory Memory 20
Dimensions (W x H x D) ..... 155 x 60 x 170 mm
Flush-Mount Dimensions (W x H x D) ..... 131 x 51 x 170 mm
Weight ..... 920 g

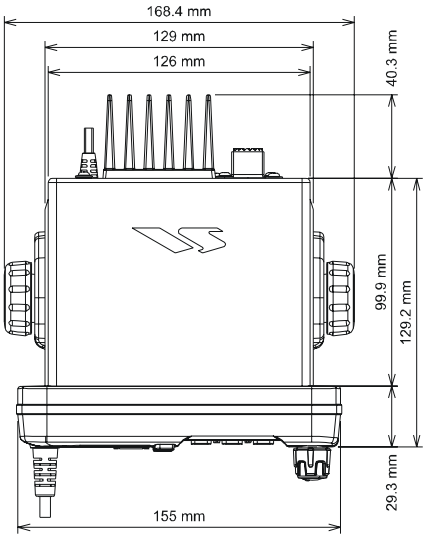
14.2 TRANSMITTER

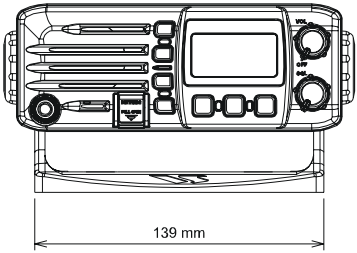
Frequency Range ..... 156.025 to 157.425 MHz
RF Output ..... 25 W (Hi); 1 W (Lo)
Conducted Spurious Emissions ..... 80 dB (Hi); 66 dB (Lo)
Audio Response ..... within +1/–3 of a 6 dB/octave pre-emphasis characteristic at 300 to 3000 Hz
Audio Distortion ..... 5 %
Modulation ..... 16K0G3E, for DSC 16K0G2B
Frequency Stability (–15°C to +55°C) ..... ±1.5 kHz
FM Hum and Noise ..... 50 dB
Duty Cycle ..... 1 : 3 (25 % TX)

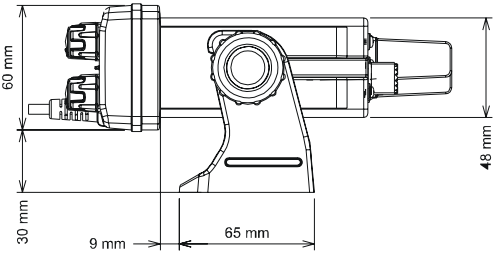
14.3 RECEIVER

Frequency Range ..... 156.050 to 163.275 MHz
Sensitivity
  20 dB SINAD ..... 0.3 µV
  20 dB SINAD (70 CH Receiver) ..... 0.3 µV
  Squelch Sensitivity (Threshold) ..... 0.25 µV
Modulation Acceptance Bandwidth ..... ±7.5 kHz
Selectivity
  Spurious and Image Rejection ..... –75 dB
  Intermodulation and Rejection at 20 dB SINAD ..... –70 dB
Audio Output ..... 4.5 W
Audio Response ..... within + 1/–3 of a 6 dB/octave de-emphasis characteristic at 300 to 3000 Hz
Frequency Stability (–15°C to +55°C) ..... ±1.5 kHz
Channel Spacing ..... 25 kHz
DSC Format ..... ITU-R M.493
NMEA Input/Output ..... Output - DSC, DSE
Input - GLL, GGA, RMC and GNS

14.4 GX1100E DIMENSIONS







Vertex Standard CE 0168 !

Declaration of Conformity

We, Yaesu UK Ltd. declare under our sole responsibility that the following equipment complies with the essential requirements of the Directive 1999/5/EC.

Type of Equipment:	VHF Transceiver
Brand Name:	STANDARD HORIZON
Model Number:	GX1100E
Manufacturer:	Vertex Standard Co., Ltd.
Address of Manufacturer:	4-8-8 Nakameguro Meguro-Ku, Tokyo 153-8644, Japan

Applicable Standards:
This equipment is tested and conforms to the essential requirements of directive, as included in following standards.

Radio Standard:	EN 300 698-2 EN 301 025-2 EN 301 025-3
EMC Standard:	EN 301 843-2
Safety Standard:	EN 60950-1

The technical documentation as required by the Conformity Assessment procedures is kept at the following address:

Company: Yaesu UK Ltd.
Address: Unit 12, Sun Valley Business Park, Winnall Close
Winchester, Hampshire, SO23 0LB, U.K.

Attention in case of use

This transceiver works on frequencies which are not generally permitted. For frequency allocation, apply for a licence at your local spectrum management authority. For actual usage contact your dealer or sales shop in order to get your transceiver adjusted to the allocated frequency range.

List of the practicable area						
AUT	BEL	BGR	CYP	CZE	DEU	DNK
ESP	EST	FIN	FRA	GBR	GRC	HUN
IRL	ITA	LTU	LUX	LVA	MLT	NLD
POL	PRT	ROM	SVK	SVN	SWE	CHE
ISL	LIE	NOR				

Disposal of your Electronic and Electric Equipment

Products with the symbol (crossed-out wheeled bin) cannot be disposed as household waste.
Electronic and Electric Equipment should be recycled at a facility capable of handling these items and their waste byproducts.
In EU countries, please contact your local equipment supplier representative or service center for information about the waste collection system in your country.

STANDARD HORIZON

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CE 0168

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